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PHYSICIAN TO ST. THOMAS'S HOSPITAL.

WHEN honoured by an invitation to deliver the Lettsomian lectures, I was naturally impelled, in the first place, to increase my knowledge of the personality and the work of John Coakley Lettsom. This was not a difficult task, as I found a short notice of him in the "Imperial Dictionary of Universal Biography" and a very delightful sketch of his life and character written by a past President of the Society, Sir StClair Thomson, in the forty-first volume of our *Transactions*. From the former article little can be gleaned in regard to Lettsom's personal traits, except that as a dresser at St. Thomas's Hospital "he distinguished himself by that diligence and steady conduct which were ever his great characteristics," and that his sense of humour was evinced by the epitaph he wrote for his own tombstone:

> When people's ill, they comes to I;
> I physics, bleeds, and sweats 'em.
> Sometimes they live, sometimes they die;
> What's that to I? I Lettsom (lets 'em).

In the second line of this short verse he summarises the methods of treatment at the disposal of a physician of his day; in the next he refers tersely to the results of treatment in words which are equally applicable to our own efforts. It is difficult to believe that Lettsom owed his phenomenal success to his astuteness in prescribing, his skill in blood-letting, or to the perfection of his methods of promoting diaphoresis, and we must seek elsewhere for an explanation.

From the information provided for us by Sir StClair Thomson we learn that Lettsom could lay no claim to scientific knowledge greater than the average of his generation, which can only be described as meagre and shallow; but it is equally evident that he possessed untiring energy and industry, wide interests in a variety of subjects and pursuits, unbounded generosity, and a sympathetic understanding of human nature—a combination of gifts which brought him more fees and fame than any other medical man of his time. In spite of his ignorance of the doctrines of Freud and Jung, his psychotherapy must still have been the most powerful weapon in the armament he employed for attacking disease, or, shall we say, for treating patients.

Perhaps it was the train of thought provoked by the study of Lettsom's career that led me unwarily to undertake the task of reviewing the principles which guide us, or should guide us, in dealing with diseases of the nervous system in the present state of our knowledge. For, while it is true that psychotherapy is still the most valuable weapon we possess for every-day use in our array of remedial agents, the century and a half separating us from Lettsom in his prime have provided us with a host of others of which he can never have dreamed.

QUACKERY.

It is interesting to note that in spite of the comparatively limited therapeutic resources at Lettsom's disposal, and notwithstanding the advances which have been made since his day in the science of medicine, particularly in regard to its anatomical, physiological, bacteriological, and biochemical aspects, the rivalry of quackery remains practically undiminished, if, indeed, it has not increased. Sir StClair Thomson quotes the following passage from a letter written by Lettsom in 1787:—

> "Among the people of fashion in London, quackery is cultivated. Can one wonder at lying advertisements, when it is known that Garrick, Lord Lonsdale and the Bishop of London were for awhile the patients of Meyerbach (a German quack). These were men of sense; but what is the intellectual state of our nobility? Perpetually enslaved by the novelty of fashion, however outré, they acquire a constitutional propensity to imitation in everything; and leave the physician as they quit an old coat."

This indictment of society, perhaps without its personalities, has stood the test of time and is still regarded generally as a true bill by members of our profession.

How is it that orthodox methods of treatment, which have steadily gained in range, accuracy, and efficacy, have hardly done more than hold their own in the eyes of the public against the striking though evanescent reputations enjoyed from time to time by quacks and quackeries? It is easy to answer this question by asserting, and with some measure of truth, that there is no limit to the ignorance and credulity of the public in medical matters, but can we boast that we have used our position of authority to best advantage in the way of educating our lay brethren and gaining their confidence? There may be two opinions as to the advisability, or, indeed, the possibility, of educating the public up to a standard of medical knowledge high enough to be helpful in dealing with this problem. In other and less intricate matters the public is content to abide by the advice of the experts whom it employs. We are not all learned in law, engineering, architecture, or agriculture, nor do we value our smattering of knowledge of these subjects so highly as to feel justified in posing as critics of those who have made them their life's study. It is hardly likely, therefore, that in medicine, requiring as it does a long training, not only in its own principles but in those of other preliminary and essential sciences, the layman can ever aspire legitimately to a position from which he is competent to speak with critical authority. Although this consideration is never likely to stifle the incompetent critic, it may stimulate some of us to question how far attempts to educate the public in medical lore should be promoted. It is hardly necessary to point out that public enlightenment in hygiene and preventive medicine may be encouraged without the risk which attends a superficial insight into the pathology, symptomatology, diagnosis, and treatment of disease.

If it is impossible to educate our patients sufficiently in medicine to enable them to realise the advantages of treatment governed by scientific knowledge over that which depends on ignorance and credulity for its acceptance, it is clear that we must find some other method for establishing and maintaining our position of supremacy in relation to that occupied by our unqualified rivals. We must find some method by which the confidence of the public in our knowledge and practice can be won and preserved. Our conviction that we hold all the trump cards in our hands avails us little if we cannot play them with skill enough to win the tricks.

The Relation of the Profession to the Public.

It may be asked, not unreasonably, how is the topic to which I am directing attention germane to the subject of these lectures. I would answer this question in two ways. In the first place it is essential, in order to apply principles of treatment with success in practice, to hold the confidence of those who are submitted to treatment. In the second place it is my intention, while discussing various disorders of the nervous system from a therapeutic standpoint, to review in a critical spirit the measures of treatment in general use with special reference to their effect on the confidence and respect of our patients. It can hardly be claimed that the relationship between our profession and the public at the moment deserves to be described as an entente cordiale, nor can we honestly assert that the blame for this lack of mutual understanding lies entirely with the public. An

atmosphere charged with currents of doubt and mistrust is not congenial to our work or favourable to its success, and if I can contribute any suggestions towards the creation of better climatic conditions, I am prepared to run the risk of an occasional burst of indignant thunder. It has been said that our objective in life should be "to kill lies without hurting men," a twofold ambition of which one component is about as difficult to attain as the other, and a task which may ask too much of a physician without the assistance of an anæsthetist.

A first great step would be taken towards the creation of a better atmosphere if it could be noised abroad that we physicians, I cannot speak for surgeons, have no pretensions to curing disease, and that, although we claim some understanding of morbid processes and disorders of function, we are in a position only to act as Nature's allies and agents. Let the claim to cure disease be made only by the unqualified. In these days the difficulties confronting a medical man in treating his patients are greatly increased by the additional task of treating and satisfying the patient's relations and friends. Illness is no longer discussed in whispers in a bedroom; it forms one of the chief subjects of discussion at the tea and dinner table, and advice is accepted, not from the doctor alone, but from all and sundry who are willing or eager to offer it. All the more reason, therefore, that the measures we adopt, the advice we give, and the information we impart to the patient and his family should be based on sound foundations and capable of standing the tests of time and doubt.

The Precedence of Diagnosis.

The first principle of treatment, and I need hardly say that this does not apply only to disorders of the nervous system, is the precedence of diagnosis. This obvious truism, to which no medical man will take exception in theory, gives rise to at least two important questions of which the first is: "What is really meant by a diagnosis?" and the second "In what proportion of cases is this principle acted upon?"

A diagnosis is, or should be, much more than a label; it should inform its maker's mind of the pathology and natural history of the morbid process indicated by its name. The doctor's responsibility does not end with labelling a patient's disorder and prescribing treatment. He should be in a position to describe in general terms the nature of the malady, the course it is likely to take, as well as the objective and probable effects, if any, of the measures he may recommend. It is true that the patient is content with a name, of which he thinks he knows the meaning but does not, and insists on having some form of treatment. In this respect the osteopath has an advantage over us. He has only one diagnosis and one treatment for all the ills to which human flesh is heir. A bone out of place is the diagnosis; its replacement the treatment. The simplicity of the whole thing is what appeals to the lay mind; its absurdity appeals only to our sense of humour.

A Label and a Treatment.

But before passing judgment on the osteopath let me remind you of the kind of letter every consulting neurologist receives at least once a week:—

> DEAR A,—I have made an appointment for Mrs. B to see you. She came to me three months ago complaining that she could not use her right hand properly. I could not make out much wrong, and her reflexes were normal. I called it neuritis and ordered her massage and electricity which did no good. Then I gave her "hormotones" with a negative result. Since then she has been to an osteopath. I should be glad of your opinion and advice. —Yours truly, C.

No history of the patient's disability and no diagnosis; a label and a treatment. I am not suggesting that in all cases of the kind the patient has suffered in the sense that valuable time has been wasted. I do submit, however, that the massage and electricity and hormotones are as good examples of quackery as the osteopath's bloodless surgery, and that Mrs. B and her relatives can hardly be blamed if they fail to recognise a difference between qualified and unqualified practitioners. I can hear C's defence. He does not pretend to know anything about nervous diseases, and although he suggested a second opinion months ago, Mrs. B would not consent. If he had insisted she would probably have left him and gone to D. But in the long run would it not have been to C's advantage and all for the good of our profession's reputation that she should go to D? If such principles as "diagnosis before treatment" guided all members of our profession, as many of D's patients would come to C as of C's to D.

Let us suppose that Mrs. B was suffering from the early manifestations of Parkinson's disease, and let us suppose that the diagnosis had been made and the following advice given her:—

> "You are suffering from a disorder of the nervous system for which there is no cure known. It may progress slowly or it may remain stationary for a long time but it is unlikely to improve. It does not affect the mind and it does not lead to paralysis and the horrors you associate with that word. You will find that it makes you slower and more awkward and perhaps shaky in your movements. Massage will only make you feel a little less stiff for a short time; electricity is useless. Certain drugs may make you more comfortable and perhaps lessen the shakiness, but on the whole, you will be well advised to carry on with your activities to the best of your ability and to place little or no reliance on treatment. You will be urged by your friends to try this, that, or the other cure, but each would only lead to another disappointment, impress your trouble more firmly on your mind and certainly waste your money."

Mrs. B would adopt one of two courses. Probably she would disregard the advice, waste time and money on all sorts of cures recommended by her friends, and perhaps in the end regret her lack of confidence in her doctor. Possibly she might accept the situation and succeed in keeping on top of her disability; at any rate, she would be saved the misery of the alternating hopes and disappointments which are the lot of those who seek cures for incurable disease. Is it not possible that if we were, one and all, to give advice to our patients on the lines I have indicated and to run the risk of losing a few of them, the time would come, and at no great distance, when the public would listen with confidence to our words of wisdom and would realise that they must turn to the science of medicine, not to quackery, for help and guidance in times of need.

We all of us denounce quacks, some would legislate against them, and, I fear, many imitate them, but I am convinced that only by raising our standard of practice in proportion to our knowledge, and by holding and living up to ideals foreign to our competitors, can we hope to win the public respect which is due to a scientific profession. Competition between qualified and unqualified practice would cease to exist with the cessation of any similarity between the methods they adopt, and the public, not the profession, would reap the greater benefit from the change.

Having thus cleared the air, as it were, by laying an indictment, not so much against unscrupulous quacks nor against a misguided, press-ridden, and over-credulous public, but against our perhaps too-satisfied selves, and by suggesting a curative treatment which *may* be Utopian and is certainly difficult to carry out, I propose to draw attention to matters of more practical moment.

LESIONS OF THE UPPER MOTOR NEURONE.

Let me begin by a consideration of the principles which should guide our treatment when confronted by disorders of function involving the upper motor neurone.

For the purpose of illustrating various points of importance, I will take for my text a straightforward case of right hemiplegia resulting from a vascular lesion in the neighbourhood of the left internal capsule. With the treatment of the patient's cardio-vascular condition we are not here concerned, but three or four days have elapsed since his "stroke," he is fully conscious, and is confined to bed with his right arm and leg flaccid and paralysed.

Experience teaches us that immobilisation of the limbs favours the formation of adhesions in their joints, especially those of the shoulder, hip, and knee. Our first duty, therefore, is to instruct the nurse to move all the joints of the paralysed limbs in all possible directions at least three or four times in every 24 hours. Foreseeing also that with the gradual return of tone to the muscles the limbs will tend to assume certain fixed postures, instructions must be given to the nurse that they are not to be allowed to remain in any one position for many hours at a time, and that pillows, or perhaps sandbags, should be employed for the purpose of counteracting the postural tendencies. It is particularly desirable to combat the tendency of the arm to become strongly adducted at the shoulder by placing a pillow in the axilla and to prevent the preponderating tone in the flexors and pronators at the elbow from imposing their authority in regard to the position of the forearm. At frequent intervals, and for some hours at a time, an attitude of extension should be maintained at the elbow, wrist, and finger-joints. In the lower limb similar precautions will be necessary to prevent it assuming a fixed position of adduction and internal rotation at the hip with extension and inversion at the ankle.

The precautionary manipulations I have indicated can be carried out by any nurse without special training. It is the doctor's knowledge of what is likely to happen in their absence and his directions to the nurse which are of paramount importance. Very shortly two things will happen. The patient will realise that he can make some movement, probably of his leg; the patient or his family will ask: "When do we start massage and electricity?" This is the crucial moment in relation to the patient's subsequent progress and welfare, the moment when the doctor needs to summon the scientific knowledge he possesses to his aid and to use it for the education of his patient. It is, indeed, to the education of his patient during the next few weeks that he must apply himself if the best possible result is to be attained.

Principles to be Observed in the Education of the Patient.

May I recall to the doctor's mind some of the essential facts underlying the principles which must be his guide in this process of education. The lesion which has paralysed the patient is one involving the upper motor neurones and therefore has not directly interfered with the normal function of any muscle in the paralysed limbs. There is a failure on the part of the patient to carry out certain voluntary movements; there is no failure on the part of the muscles and no blame attaches to them. This is not a theory but a fact which can easily be demonstrated to the patient in numerous ways. If he is observant he will, perhaps, have noticed already that when he yawns his seemingly paralysed arm makes a movement comparable to the "stretch" of his sound limb, that when he makes a big effort with his left side certain involuntary movements occur in his right limbs which he cannot reproduce separately at will. When you tap his tendons the muscles contract briskly and strongly, and if an electric current is applied to them they respond in normal fashion. Noxious stimulation of the sole of the foot or of the palm of the hand may give rise to widespread movement quite outside the patient's control. The evidence is overwhelming, therefore, that there is nothing the matter with his limbs or their muscles, and therefore nothing to treat in them.

And yet in 75 per cent. of cases massage and electricity will be ordered for the limbs and the patient led tacitly to understand that they are the agents responsible for his recovery. It may be granted that, as I have already pointed out, some simple passive movements are desirable in order to prevent complications and that a little rubbing will promote the circulation in limbs which are apt to get cold and stiff as the result of their immobilisation; but electricity! If all the current wasted in a year on the limbs of hemiplegic patients could be stored in accumulators, the Prime Minister's scheme for supplying electricity to the country would be rendered superfluous! Must we really go on allowing and even encouraging the public to believe that electricity has some magic influence in restoring nervous energy to paralysed limbs or that it has any curative properties whatever. Is not its use in some departments of medicine as unjustifiable and useless as osteopathy, homœopathy, chiropraxy, or the like?

But to return to the patient and his education. Let me give the gist of what he must be told, not, perhaps, all at once, but in varying language and on many occasions until he has thoroughly mastered his lesson.

"In health when you wish to make any particular movement of a limb, your brain sends an impulse by nervous paths to muscles, or groups of muscles, which contract and so carry out the movement you desire. As the result of your illness there is some obstacle in the way of impulses passing from your brain to your right arm and leg. You have the desire to make a movement and the impulse is started but it does not reach the limb. You might think that the fault lies in the muscles or joints of your arm or leg but that is not the case. They are perfectly healthy, as I can demonstrate to you, and are ready to perform the movements you desire so soon as you can succeed in sending the necessary impulses to them. As far as we know, there is no reason why the obstacle to the passage of impulses should not be overcome, as a result partly of Nature's power of healing and partly of your own efforts. You must not expect any treatment applied to the limbs in the way of rubbing or manipulations to help in restoring your power of moving them. The object of the masseur is to keep the muscles and joints in good condition until such time as you can make use of them yourself. This is a case in which you, although the patient, have to carry out the greater part of the treatment yourself and you cannot depute the task to anyone else.

"We shall want you to devote a few minutes, several times a day, to making attempts at movements, in other words, to sending impulses on their way. But this must be done in a systematic manner if it is to achieve the quickest and best results. It is not much good saying to yourself, 'I will move my arm' or 'I will move my leg' heedless of what movement, if any, results. Study the movements which you can carry out at each joint in your sound limbs and attempt to repeat each one on the other side. You have already succeeded in bending your elbow very slightly; this movement will be retained and grow stronger every day. You need not bother so much about the movements you have acquired but give more attention to those which are still lacking. You cannot bend your wrist as yet, but look at it several times a day and make the mental effort to bend it and one day it will answer to your call."

I have repeated this lesson in order to submit that it indicates, in a few words, practically all that can be said in regard to the principles of treating patients with lesions of the upper motor neurone. To leave the patient without this enlightenment is to neglect our chief responsibility; to tell him more is to embark on the task of educating someone who lacks the elementary knowledge essential for its accomplishment.

Other and perhaps more cogent reasons for emphasising the importance of such a lesson are, first, the infrequency with which it is taught, secondly, the valuable results I have observed to follow its teaching. After all, what is the value of our knowledge if we do not make full use of it? Ignorant of medical science, any layman when confronted with inert limbs jumps to the conclusion that something must be done to *them* to restore their life and that massage and electricity are the obvious agents for that purpose. Why should we pander to such ignorance and descend to the level of the quack?

I am quite alive to the fact that the masseur of the present day is often intelligent enough to encourage his patient to carry out movements against resistance, and by so doing, to enlist his interest in his paralysed limbs, which is the first therapeutic requirement. But in ninety-nine cases out of a hundred the patient is convinced that it is what the masseur does to him and not what he does himself which is responsible for his gradual return of power. I can hear the question asked: "What does it matter what the patient thinks so long as he improves?" In my opinion it matters a great deal from the point of view both of the patient's pocket

and of our professional reputation. Moreover, it has often happened to me when seeing hemiplegic patients that I have been able to demonstrate their ability to perform voluntary movements of which they were quite unaware even after months of massage.

The principles governing the treatment of hemiplegia are, as I have already said, equally applicable to all conditions in which the upper motor neurones are at fault, whether the lesion lies in the brain or in the spinal cord. In many instances the patient's activity is as much interfered with by the development of spasticity as by the impairment of his voluntary power; indeed, it is not unusual to find a sufficiency of voluntary power for practical purposes defeated by the presence of hypertonus. Various surgical procedures have been advocated for the purpose of reducing this handicap, but the success which has attended their practice has only been of limited range and in selected cases. Looked at from the physiological point of view, we must still base most of our hope on the persevering efforts of the patient who, by gradually developing the inhibitory influence of his upper neurones, may do much to keep in check the reflex mechanism responsible for involuntary spasms. For this reason we are again obliged to enlist the patient in his own service and to admit that there is little we can do to supplement his own systematic efforts. If there is one thing to be avoided in such cases it is the application of electricity, an agent which, if it has any influence, can only be in the direction of increasing reflex irritability.

LESIONS OF THE LOWER MOTOR NEURONE.

The principles which should guide us in treating patients suffering from lesions of the lower motor neurone are simple and easily defined, although they must necessarily be modified in practice by our knowledge of the nature and natural history of the lesion in any particular case. The lower motor neurone differs from the upper in the fact that it has to do with individual muscles and not with voluntary movements, and in its ability to regenerate after injury so long as its cellular element is not destroyed. In some diseases, therefore, we can entertain the hope that nature's efforts may restore normal function, or at any rate succeed in bringing about some measure of recovery. In others we are faced by the certain knowledge that death has overtaken the essential cells and that nothing can be done to bring them back to life.

The acute specific fever which we recognise by the name of acute poliomyelitis may be usefully employed as an example of a lower motor neurone lesion on which our principles of treatment can well be based. Let us take, for instance, the case of a child about 10 years of age, who suffers from an acute illness, with the usual disturbances of health associated with an acute specific fever, and who develops a widespread and flaccid palsy of two or more limbs. The illness may last but a few days, at the end of which time the patient is unable to utilise his right arm and leg. Two or three weeks later, quite irrespective of any treatment, it will be found that the patient has recovered the power of contracting certain muscles in the paralysed limbs, while other muscles not only fail to respond to volitional efforts, but exhibit the reaction of degeneration to electrical stimulation, and are obviously losing their normal bulk and tone.

The upper limb will serve to supply us with all the material necessary for the question of treatment. We find that function has returned in the small muscles of the hand, the flexors of the wrist and fingers, and in the extensors of the elbow. The spinati, deltoid, biceps, and extensors of the wrist show no sign of life. In other words, the brunt of the inflammation in the spinal cord has fallen on the fifth and sixth cervical segments. The disease has run its course and is a thing of the past. Certain muscles have recovered their ability to contract in obedience to the patient's will and may be left to regain their former strength without anxiety. What can be done about those which show no signs of life except their ability to respond to the make and break of a galvanic current?

The mischief in the cord has been done, and we have no means of restoring to life cells which may be destroyed. We know of no method by which we can help to restore the function of those neurones which are not destroyed but only temporarily crippled. We must be content, therefore, to keep the paralysed parts in so healthy a condition that any restoration of function in the nervous paths may find the muscles, tendons, and joints fit to undertake their task once more. Immobilisation is the chief danger threatening the joints and this can be easily averted by daily passive movements of the simplest kind. These movements will also insure against any tendon becoming unduly shortened by any fixation of the limb which we may be obliged to resort to. What about the muscles? Their nutrition can be maintained by keeping them warm and by rubbing, and their contractility perhaps promoted by applying such electrical stimulation as will cause them to contract. Finally, we must remember that a muscle which, having lost its tone, remains passively stretched for any length of time will not recover its function even when its nervous connexions with spinal centres have regained their normal activity. In our particular case the weight of the limb hanging by the patient's side will tend to stretch the paralysed and toneless deltoid and biceps, and unless this mechanical strain is avoided it will be hopeless to expect those muscles to recover their function. A splint, removable to allow of daily joint movements and muscle rubbing, must be devised to keep the arm abducted at the shoulder, the elbow flexed, and the wrist extended, the positions in which the deltoid, biceps, and extensors of the wrist are maintained in a condition of relaxation.

The measures I have described comprise all that lies in our power to promote the restoration of function in muscles put out of action by lesions of the lower motor neurones, and may be applied to all conditions in which hope of such recovery is justified, such as injuries to peripheral nerves or peripheral neuritis. On the other hand, the length of time during which these measures should be persevered with must vary with the nature of the lesion. In the case of acute poliomyelitis it is customary to teach in general terms that treatment should continue for a year or 18 months after the acute illness. This may be true if all cases, including those who have not been treated from the beginning on the principles I have indicated, are included. If, on the other hand, we take cases which have received efficient treatment from the onset, those muscles which show no return of function at the end of four to six months will not develop a sufficient amount of power to be of any practical use, however long massage and electrical treatment may be continued.

A general recognition, therefore, of the principles governing the treatment of patients suffering from the effects of acute poliomyelitis would result in a considerable economy of muscular energy, electrical current, time, and money. When the conclusion is arrived at that no more restoration of muscular power can be expected, further treatment must depend on the particular disability of each case and on what orthopædic measures can be devised to reduce the disablement to a minimum. No general principles governing these procedures can be laid down; anything from a simple tenotomy to a complicated mechanical support or an arthrodesis may be required.

Motor Neurone Degeneration.

This is a modern term denoting progressive muscular atrophy, bulbar palsy, and amyotrophic lateral sclerosis. The condition is, as its name implies, one in which there is a gradual but progressive degeneration or dying out of all the chief efferent tracts. In all three types both upper and lower motor neurones are involved in the process of decay, but in the two first named the muscular atrophy resulting from the loss of lower motor neurones is the predominant clinical feature. We are entirely ignorant of the cause of this disease and equally powerless to arrest or even influence its course. Although the rate of progress is

variable, there is no proof that methods of treatment which are generally applied either hasten or postpone the inevitable fatal termination. It might be said, therefore, that since all treatment is valueless, there can hardly be principles which govern it. But something may be said in regard to the handling of these terribly distressing cases, something which may help the public to distinguish the practice of the profession from that of the quack. The diagnosis having been made, what information should be imparted to the patient and his relations? Something must be said and some advice given, but what? There appear to be two alternatives which I will indicate in language of my own choosing. In the first place, you may say to the patient:—

"Some of your muscles are wasting and becoming weak. You must have some massage and electrical treatment to strengthen them and I will give you some injections of strychnine in order to tone up your nervous system."

No promise of cure, true; but a suggestion, a strong suggestion, that the measures you prescribe will bring about some amelioration. Result after one, two, or three months' treatment varying with the sufferer's patience and pocket—certainly no better, probably rather worse. "The doctor evidently does not understand my case and I will try an osteopath recommended by Lady X." Osteopath, more straightforward than the doctor, promises a cure, but it means a long course of treatment and payment in advance, a suspicious symptom overlooked by the patient. His diagnosis, treatment, and failure are all foregone conclusions, and we need pursue this patient's miserable adventures no further. Suffice it to say that, looking back on his experiences, he is unable to distinguish that which he underwent with his own doctor from that with the osteopath except in one not unimportant feature; the osteopath has been paid and the doctor is still hoping!

The alternative method is to address the patient in some such terms as these:—

"As you see for yourself, your hand is weak because some of the muscles have wasted. As a matter of fact, the fault does not lie in the muscles themselves but in some of the nerve cells which ought to nourish them. These cells have decayed before their time just as some people's hair goes grey or their arteries become hard sooner than usual. It is a process with which we are quite familiar, of which we don't know the cause and for which there is no reliable remedy. The muscles which have withered will not regain their size or power, and other muscles may become affected in a similar manner, but such an event may be long postponed. In order to put as little strain as possible on these obviously fragile tissues, I shall advise you to save yourself all unnecessary muscular exertion. Don't be led into the belief that exercising these failing muscles will increase their size or power. It is true that healthy muscles will respond in that way, but that is because both they and the nerves which nourish them *are* healthy. For the same reason avoid electrical treatment and injections of drugs like strychnine which will not do good and quite possibly may do harm. It is no good whipping tired horses and it is still more useless to stimulate tired muscles and nerves. On the other hand, gentle massage might be helpful in maintaining the nutrition of what muscular tissue is left although you must not regard it as a curative measure. You have nothing to fear in the way of pain. Although the condition is not without danger, I have known patients who have lived many years in spite of it and whose lives have not been shortened by it."

These words contain the truth, perhaps the whole truth, and certainly nothing but the truth. Whether they are accepted is not our concern. We have done all in our power not only to help the patient physically, but to save him from the mental anguish which follows on disappointment and which is far more distressing than any bodily disablement. We have given him the opportunity of making once and for all his psychological adjustment to whatever fate has in store for him and of avoiding the suffering engendered by false hopes and cruel disillusions. Further, and of less importance, the event, whether our advice is heeded or unheeded, will vindicate our professional knowledge and the knowledge of our profession.

In this my first of three lectures I have chosen for discussion some disorders of nervous function the causes of which we are powerless to influence or control. The problem of treatment in each instance, using the word treatment as covering all that concerns the patient's welfare, has been the application of certain principles derived from our knowledge of what natural forces can do and how, from a physiological and anatomical point of view, these forces can be aided and abetted. But on the foundation provided by these principles, I have based an appeal for the more serious consideration of two of our many responsibilities. Of these the first is our responsibility for the psychological as much as for the physical health of our patients even when they are the victims of organic disease; the second is our responsibility for raising the standard of our practice as high as is possible above that of quackery, so that sooner or later the public may have no room for doubt as to where to place their faith.

Remarks
ON THE
RÔLE OF THE MESENTERY IN VISCERAL DISORDERS.

A Lecture delivered at the London School of Medicine for Women

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THIS subject was chosen in order to emphasise that the mesentery receives too little attention in the study of visceral disease. It is a subject which clearly covers so much ground that it is impossible, in the allotted time, either to consider every aspect or to enter into any great detail.

In the first place we should realise that, though the gastro-intestinal tract possesses a large measure of independence and autonomy, it is of no physiological value without its mesentery. In it are contained:—

(*a*) *Arteries and veins*, which not only ensure the vitality of the gut, but, in the latter case, are designed for absorption of the foodstuffs prepared for assimilation and for the removal of waste products.

(*b*) *Lymphatics*, which exercise the dual function of absorption and the removal of waste products.

(*c*) *Nerves*, both motor, inhibitory, and sensory. These exercise a governing control, in accordance with the needs of the body, on the otherwise independent movements of the gut. To some extent also they synchronously influence the digestive secretions.

It is obvious that a structure of such vital importance should be elaborately provided with means of defence, the breakdown of which must interfere with vital processes and lead to a variety of visceral disorders. Some of these I propose to discuss this evening in the hope that a departure from the beaten track may stimulate your interest and provoke discussion.

The *defence* of the mesentery against damage to its contained structures is of two kinds:—

(*a*) *Against Infection.*—This is provided by the lining of peritoneum with its endothelial cells. This, as you are well aware, is endowed with bactericidal properties manifested by the outpouring of serum and lymph formation. I do not propose to refer in detail to a subject so familiar to you all.

(*b*) *Against Mechanical Injury.*—This occurs under pathological conditions in two ways—i.e., pressure and tension. The means of protection against mechanical injury are: (1) fat and areolar tissue contained in the mesentery; (2) the tone and development of the abdominal muscles; and (3) the mesenteric Pacinian corpuscles.

DEFENCES OF THE MESENTERY AGAINST INFECTION.

Peritonitis may be general, diffuse, or localised, depending on the virulence of infection and the degree of resistance. When the parietal peritoneum

alone is involved the overlying muscles are on guard and rigid; but apart from constitutional symptoms there is no associated gastro-intestinal disturbance. When, however, the inflammatory process involves the mesentery the afferent and efferent nerves are irritated, and the Pacinian corpuscles are also involved. From this certain characteristic symptoms arise which are to be taken as indications of a defensive mechanism. This is best illustrated by concrete examples.

Acute Appendicitis.—You are familiar with the classical symptoms and signs in typical cases. But, if the appendix itself is sensitive (or responsible for the symptoms for which it is blamed), how is it that in one instance vomiting is pronounced and in another absent? Why is one subject constipated and in another the motions are normal, &c.?

Consider first the appendix adjacent to the ileal mesentery. Inflammation involves the mesentery of the ileocæcal angle and irritates—

(1) *The Pacinian Corpuscles.*—From these proceed:

(*a*) *Pain*, which is generalised over the mid-abdomen, since the hyperæmia extends for a variable extent over the ileal mesentery. The localisation of pain later to the right iliac fossa is an indication of the extension of inflammation to the parietal peritoneum in the vicinity.

(*b*) *Afferent impulses*, eliciting an efferent response along the somatic nerves to the abdominal muscles. This results in the abdominal rigidity or "guarding" with which you are familiar; and which, together with thoracic respiration (i.e., limitation of abdominal movement), is clearly a defensive measure.

(2) *Efferent Nerves.*—The stimulation of these in their course by the inflammatory process results in inhibition and immobility over the area of gut supplied—the ileocæcal angle. As you know, it is difficult physiologically to stimulate the vagus in its efferent course, because the sympathetic dominates. The same is true clinically, so that the affected viscera are kept at rest. The result is that *constipation* is characteristic.

(3) *Afferent Nerves.*—The efferent response to this is manifested by efferent sympathetic stimuli resulting generally in closure of the pylorus and a generalised inhibition and immobility of the intestinal tract. At the same time the afferent vagus stimulus elicits gastric contraction through its efferent response. The result is vomiting and an accentuation of constipation with gradually increasing distension.

If these symptoms be contrasted with a similar inflammation of a retrocæcal appendix (when the mesentery is intact and there is no involvement of vagus or sympathetic) it is noticeable that vomiting is rare and the bowels are often normal, while rigidity is absent, until the peritoneum is involved by direct extension. Similarly in acute salpingitis these symptoms are absent until the mesentery is involved.

This mechanism is obviously designed to achieve the first principle in the treatment of inflammation—i.e., *to rest the inflamed part.* Thus the inhibitory impulses immobilise the bowel and limit the spread of inflammation; and this is assisted by the motionless abdominal wall. Vomiting and pyloric closure prevent food entering the intestinal tract and ensure rest. For the clinician the moral is obvious—namely, to assist by imitation this defensive mechanism; and this is the principle of the Fowler treatment. The removal of the appendix with the minimum disturbance (Murphy said "quick in and quick out"), followed by starvation, rectal saline and glucose, and morphia are best calculated to achieve the maximum of rest. To these I would add radiant heat and fomentations for reasons to be discussed later. Purgation is wrong in principle. As the inflammatory process subsides the intestines will begin to move again, and then the action of the bowels can be assisted by a wash-out and pituitrin.

General Peritonitis.—This is only an exaggerated example of the one discussed. Clearly the whole intestinal tract is involved, and the symptoms are more severe and the distension very much greater. Finally, the "ileus" may be sufficiently pronounced to constitute a serious condition in itself. So-called "paralytic ileus" deserves separate consideration.

DEFENCES OF THE MESENTERY AGAINST MECHANICAL INJURY.

1. *Pressure: Paralytic Ileus.*—We have already seen that ileus may be produced by sympathetic stimulation, and that this is a defensive measure calculated to provide rest for the inflamed part. To call this "paralytic ileus" is a misnomer, since it is active inhibition. But it may easily develop into a true paralytic ileus. As the intra-abdominal pressure rises the most collapsible structures will be first effected—i.e., the *veins.* Increasing pressure on the veins leads to progressive venous stasis. You all know that muscle becomes rapidly fatigued and cannot contract unless its arterial and venous circulation is intact; so that, engorged with venous blood, intestinal muscle becomes inert and distension is accentuated. It is clear that "active ileus," if I may so term it, whether originating primarily from infection, or from mesenteric injury (as in post-operative ileus) may progress towards a true "paralytic ileus." *And the point to note* is that the latter is vascular in origin.

While the treatment of active ileus is rest, the treatment of paralytic ileus must be amplified and is directed to:—

(*a*) *Circulation.*—The withdrawal of blood from deeper structures and the efficiency of the heart's action are the first step. *Radiant heat:* There is no more efficient treatment than repeated radiant heat baths to the abdomen for 20 minutes or half an hour at a time, and renewed hot fomentations. These are followed by 1 c.cm. of pituitrin hypodermically and a turpentine wash-out. This is frequently followed by the passage of flatus, and again by slow distension. Frequent passage of the flatus tube is also of value, and small doses of morphia are indicated. The use of radiant heat to the abdomen (originally taught to me many years ago by Sir George Makins) has proved invaluable; but I am often surprised to find how seldom it is employed. The heart's action should be ensured by the usual stimulants.

(*b*) *Diminution of Intra-abdominal Pressure.*—Repeated attempts to secure the passage of flatus has been mentioned, and will succeed directly the circulation is sufficiently restored to permit of muscular contraction. It is useless to employ purgatives. *Gastric lavage:* This is another valuable means of reducing intra-abdominal pressure. In the majority of instances the condition will gradually yield to treatment along these lines. Where, however, the ileus is intractable and distress is great, more active steps must be taken. *Spinal anæsthesia* has been known to be followed by the passage of flatus and fæces, probably by reason of the complete abdominal relaxation it induces. *Temporary ileostomy:* This is most valuable as a means of reducing intestinal distension and intra-abdominal pressure. Arbuthnot Lane advocates opening the abdomen and suture of the skin alone—i.e., establishing a ventral hernia—in order to reduce pressure. Other instances of paralytic ileus of vascular origin are to be found in the terminal distension associated with lobar pneumonia, right heart failure, &c.

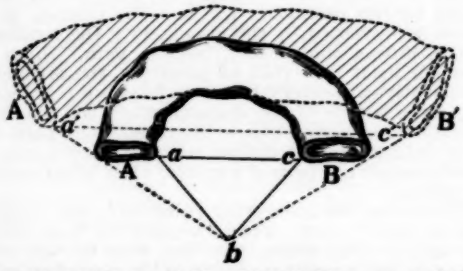
2. *Mesenteric Tension: Local Ileus.*—As an introduction to this subject I may first emphasise the difference in symptoms between intestinal obstruction and strangulation. In the former complete obstruction may exist for days, or even a week or so (if gradual in onset), without marked constitutional disturbance. Often the tongue is moist and fairly clean, the complexion may be good, &c.; in fact, there is often little general evidence of serious trouble. Thus the complete retention of intestinal contents, colic and distension, may fail markedly to impair the general health. Contrast with this the rapidity with which the pinched face, rapid pulse, intestinal breath, subnormal temperature, sunken eyes, and vomiting are established within a few minutes of acute strangulation. The acute pain and vomiting at the onset are due to the sudden injury to the mesentery by the strangulating agent (in contrast to the insidious onset when only part of the bowel wall is nipped—e.g., Richter's

hernia); but with the passage of the initial symptoms is ushered in a rapid and progressive illness. In a very short time the most striking symptoms are the dry, brown tongue and the fœtor of the breath, which are characteristic of an intestinal lesion.

Now this contrast should tell us that the retention of intestinal contents (or intestinal stasis) per se is greatly over-rated as a cause of the symptoms referred to. You are all familiar with the effect of ligaturing the veins of a loop of gut while leaving intact the arterial supply. In strangulation the veins, being most collapsible, are occluded; and, as in the experiment, the venous pressure rises. I suggest that the passage of serum and gases from the blood into the occluded loop continues until the pressure here exceeds that in the adjacent veins which are not occluded. Such gases will be rapidly passed into the circulation, carried to the lungs and exhaled. As the strangulated loop becomes gangrenous it forms a focus of continuous and progressive toxic absorption. These causes of rapid absorption do not exist in obstruction of the intestinal lumen; and the inference is that local interference with the return of venous blood is one of the primary factors in producing local ileus, as well as in the resulting absorption of toxins. It would follow that the absorption of toxins from retained intestinal contents is negligible until the circulation is so impaired.

Before applying these principles clinically there is one more point I wish to mention. You probably all remember that increase of pressure in a curved metal tube tends to straighten it proportionately to the rise of pressure. Indeed, this principle is utilised in scientific instruments and is easily demonstrable in rubber tubing. Now it is of interest to note that nearly all the hollow viscera are fashioned on the principle of the curved tube, owing to the origin of the mesentery being so much shorter than the attached gut. Intestinal distension results in a proportionate stretching of the mesentery in two directions: (1) longitudinally in the axis of the intestine; (2) at right angles to the gut and towards the origin of the mesentery (see Fig. 1).

FIG. 1.



A–B = Normal loop. A′–B′ = Distended loop. *a*–*c* and *a*′–*c*′ = Longitudinal tension *a*–*b* and *a*′–*b* = Vertical tension.

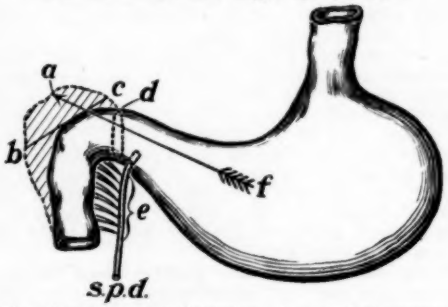
The vertical tension of the mesentery in distension is exemplified by the protrusion of the intestine from the abdomen during laparotomy for obstruction. I have satisfied myself by experiments in the cadaver and in animals that the point is a practical one. Again, the effect of this tension is manifested first in the most collapsible structures—i.e., the *veins*. And the first practical application is the relationship of local ileus and venous stasis to gastro-intestinal ulceration.

CLINICAL ILLUSTRATIONS.

Gastro-intestinal Ulceration.—(1) *Stercoral ulcer:* This is one of the late results of distension arising from obstruction. It is significant that venous stasis is always seen in prolonged intestinal distension; and that stercoral ulcers are found at or near the anti-mesenteric border—i.e., in the capillary area most remote from the main vessels. The situation of the ulcer will naturally vary to some extent with the incidence of such factors as trauma, infection, &c., but, on the whole, the situation is fairly constant.

Chronic Ulceration.—(2) *Duodenal ulcer:* If we apply general principles to the problem of chronic ulceration in the gastro-intestinal tract, the first point to remember is that one of the greatest enemies to healing is the imperfect removal of waste products owing to an obstructed venous return. I need only mention the familiar varicose ulcer which generally heals quickly when the venous return is assisted by rest and elevation of the limb. Now, unlike the stomach and small intestine, the duodenum is a fixed viscus with no mesentery; therefore straightening of the "curved tube" under increased pressure does not apply to the same extent. On the other hand,

FIG. 2.—*Duodenal Type of Stomach.*



a = Situation of greatest distension. *b*–*c* = Most anæmic area. *d* = Widely patent pylorus. *e* = Situation of main blood-supply. *f* = Projection of pieces of solid food, organisms, &c., direct on most anæmic area. *s.p.d.* = Superior pancreatico-duodenal artery.

distension must clearly affect first the convex border, where the vessels are smallest and most easily obliterated; and this increased pressure will specially affect the most mobile portion—namely, the first part—which becomes the most anæmic. At this point I would remind you that hyperactivity, hypersecretion, and, to some extent, hyperacidity (which are characteristic of duodenal ulcer) are all indicative of the domination of the vagus or motor impulses over the sympathetic.[1] I have elsewhere shown further that the resulting widely patent pylorus, which obtains in duodenal ulcer, favours: (*a*) rapid passage of organisms direct to the first part of the duodenum; (*b*) trauma; and (*c*) distension. All of these are first felt, under these conditions, by the first part of the duodenum.

If all these points (illustrated in Fig. 2) be borne in mind, it is not difficult to understand the remarkable constancy in situation of the vast majority of duodenal ulcers. Nor is it difficult to appreciate that vagus domination is the essential predisposing factor. Sometimes duodenal ulcer develops consequent on ileus due to compression by the superior mesenteric artery. In such cases Wilkie's operation of duodeno-jejunostomy would appear to be the rational procedure, combined in some instances with ascending colopexy. Macdonald, of Seville, informs me that he has definitely cured duodenal ulcer in such cases by performing Wilkie's operation.

3. *Gastric Ulcer.*—In chronic gastric ulcer an entirely different picture is presented. Here we are dealing with a freely mobile hollow viscus of the "curved type," the distension of which tends to straighten out the concave surface. On this surface the main vessels of the coronary-pyloric blood-supply lie in the gastro-hepatic omentum parallel to the lesser curvature, and, it is to be especially noted, *closely applied to it*. Any straightening of the lesser curvature, under distension, is bound to exert corresponding tension and partial obliteration of the venous return. On the greater curvature it is to be noted that not only are the main vessels (gastro-epiploics) situated a considerable distance from the stomach,

[1] Pathology and Symptoms of Duodenal Ulcer, Brit. Med. Jour., June 14th, 1924.

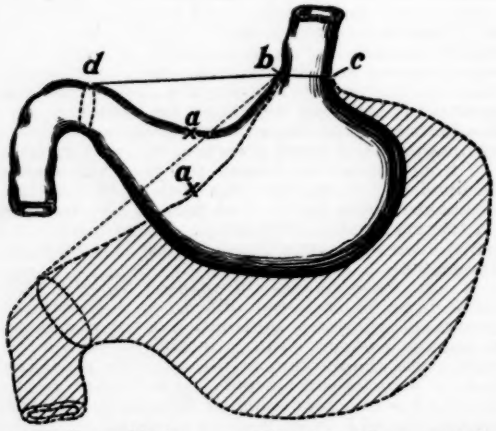
but that, under distension, the anterior part tends to bulge downwards and forwards *in front of these vessels*. There is, therefore, little tendency towards tension on the main veins or obstruction to the venous return.

As a contrast to the former (vagus) type of stomach we are now considering a "sympathetic type." Here the sympathetic impulses dominate the vagus. The pylorus is actively closed and responds sluggishly to the normal mechanism. Intragastric tension is raised and is associated with corresponding obstruction to the venous return over the pyloric and lesser curvature areas. The low acidity common to the "sympathetic" stomach favours infection. If now we add trauma as an exciting factor it is not difficult to appreciate the occurrence, persistence, and recurrence of a chronic ulcer along the lesser curvature, when venous stasis is dependent on persistent or recurrent increase of intragastric tension.

It follows that pyloric closure with the resultant distension are primary factors in the persistence of chronic ulcer. The *situation of the ulcer* should be to some extent influenced by the degree of fixity of the pyloric end of the stomach. (*a*) With the very movable pylorus it would be expected that the ulcer would be about the middle of the lesser curvature (Fig. 3, *a*). (*b*) When, however, the pyloric end is relatively fixed, the ulcer will be more liable to form in the areas *a–d* or *a–b*, since there is little venous tension at *a* (Fig. 4).

These expectations are partly based on animal experiments and on observations in the cadaver. And, while it is not possible to be dogmatic, my present impressions are that clinical observation also affords some confirmation. Incidentally it is worth noting how frequently gastro-enterostomy performed for *gastric ulcer* may relieve the symptoms for a time

FIG. 3.



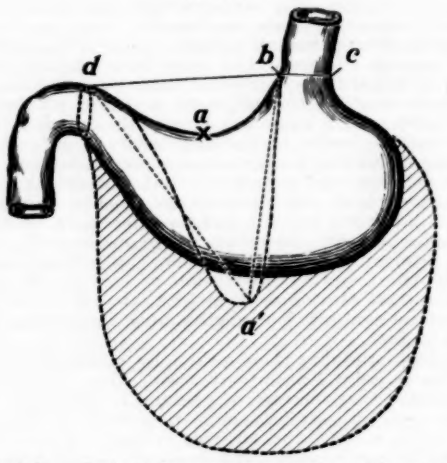
b–c = Cardiac sphincter. *a* = Mid-point of lesser curvature. *b–d*—*b–d* = Contrasted tension on mesentery in empty and distended stomach.

without really curing the ulcer. It is my belief that gastro-enterostomy in such cases achieves its result almost entirely by the relief of intra-gastric tension, and consequent restoration of the venous circulation in the ulcer-bearing area. To some extent also it provides a measure of rest to the stomach proximal to the anastomosis. That the reduction of acidity following gastro-enterostomy influences greatly the healing of ulcers proximal to the pylorus cannot be established on clinical evidence.

Flatulence and Eructation.

It has already been suggested that under conditions of distension gases may pass from the gut into the blood stream, and that, when venous stasis raises the pressure in the veins above that in the gut, gases will pass in the reverse direction. If this supposition is correct we have at least an explanation of gastric flatulence and eructation arising from a remote lesion. For example, consider the milder mimicry of the acute appendix illustrated by the "so-called" controlling appendix or the Lane's ileal kink. Both of these, by their mechanical irritation of the afferent mesenteric nerves, stimulate a reflex closure of the pylorus synchronously with vagus (motor) stimulation of the proximal stomach.[2] The resulting distension, accentuated by consequent venous stasis, reaches a

FIG. 4.



$\left.\begin{matrix} a–d—a'–d \\ a–b—a'–b \end{matrix}\right\}$ = Contrast in mesenteric tension with empty and distended stomach.

point when the gastric contractions force the gas into the œsophagus.

You are all familiar with the examination of babies suffering from hypertrophic pyloric stenosis; and you have probably noticed that during gastric contraction the closed pylorus is forced to the right of the abdomen. I have elsewhere pointed out [3] that any closed point of the gastro-intestinal tract causing obstruction to the lumen is treated as a foreign body and driven downwards by the peristaltic waves. The passage downwards is prevented by the mesentery; the tension on which, during contraction, induces pain. Since the stomach itself is devoid of sensation, the tension on the sensitive mesentery during peristalsis is responsible. The same is true of the stomach when the pylorus is reflexly closed. And this is the reason why pain soon after taking food, together with flatulence, may so closely mimic the pain of a gastric ulcer when no ulcer is present.

This raises the interesting point as to the origin of pain in gastric ulcer—a point beyond the limits of this discussion. This much, however, may be said—that the acute and accentuated pain in the case of an active (inflamed) ulcer is probably due to the extension of the inflammatory process to the sensitive mesentery. Tension upon an inflamed mesentery, resulting from the closure of the pylorus, in such cases, will give rise to greater pain, flatulence, and even vomiting at such time as the activity of the stomach is greatest. Hence the variability of the onset of pain, the intervals of freedom from pain (when the ulcer, though still existent, is not actively inflamed) and the complete relief from pain after vomiting. In my experience vomiting after food, followed by complete relief from pain, is unusual in the absence of an active ulcer or old adhesions. Flatulence and pain after food is common to both conditions. I think we should regard one as a more advanced stage of the other—the mechanism of the symptoms being similar.

VISCEROPTOSIS.

We have now finally to apply these principles to a subject which has been shrouded in much unnecessary mystery. The numerous and varied complaints

[2] Hunterian Lecture, THE LANCET, 1920, i., 1299, 1345.
[3] Obscure Intestinal Colic, Brit. Med. Jour., Feb. 18th, 1922.

attributed to visceroptosis, with its known complications (such as "movable kidney" &c.) have led to the existence of two schools. The one condemns these mildly miserable sufferers as incurable, neurotic, &c., and either edges them off to the psychotherapist, treats with vaccines, or recommends a life of constantly recurring rest cures, &c. The other would appear to regard everyone with a prolapsed colon as soil for an infinite variety of energetic surgery.

Extreme views in medicine are rarely justified; and if this subject is to be approached impartially there are three undoubted postulates: (1) there are many people with pronounced visceroptosis living perfectly happy healthy lives, and free from complaint; (2) there are many people suffering from a variety of ailments who happen to have a prolapsed colon entirely unconnected with their complaints; (3) there are also a considerable number of subjects of visceroptosis in which this is the primary trouble, or, at any rate, plays a considerable part in the symptoms complained of. To take extreme views must obviously lead to error unless we can differentiate accurately these three classes—and here lies the difficulty and the origin of failure and discredit.

Full discussion of so wide a subject is clearly not within the scope of this paper, but, in order to render the survey more complete, I am anxious to suggest to you the principles which should guide us. The first important principle to be borne in mind is the importance of the mesentery, with its contents so vital to the life and health of the individual. It is clear that such a structure can never be, and never was intended to be, a supporting structure for the viscera.

In the adaptation to the erect posture *two main mechanisms of visceral support* have developed; and the function of both is to protect the delicate mesenteric contents from mechanical strain. These are:—

(*a*) *Certain fixed points* for attachment of the viscera. These are well-known anatomical facts which are familiar to you and require no elaboration. Together with these fixed points are certain whole lengths of intestinal tract which become more or less "fixed" by a normal fusion of the primitive mesentery—e.g., duodenum, ascending and descending colon. These two purely mechanical methods of adaptation to the erect posture show great variability in different individuals. This variability is sufficiently marked to suggest that the complete adaptation of the viscera to the upright position is in a transitional stage of evolution. It would follow that excessive mobility is to be regarded as incomplete development; while the presence of abnormal bands, or so-called "kinks," may in some instances be regarded as over-development of the normal process of fixation. Both defects can originate pathological processes.

(*b*) *Intra-abdominal Pressure.*—The support afforded the viscera by normal pressure is a factor which varies with different conditions of posture, exertion, &c.; and it is self-regulating under normal conditions. Thus, when the erect posture is assumed the abdominal muscles automatically contract and afford the necessary support to the viscera. This takes place in the following way: On standing up the viscera tend to fall toward the pelvis and the mesentery gets dragged upon. The resulting mechanical tension stimulates the Pacinian corpuscles (sensitive organs of "touch"), from which proceed afferent impulses exciting the efferent response along the somatic nerves to the abdominal muscles. The resulting contraction of these saves the mesentery from further tension by increasing the intra-abdominal pressure and supporting the viscera. The hernial rings are closed by a similar mechanism. The Pacinian corpuscles, together with the reflexes they initiate, are to be regarded as normal means of protection of the mesentery against mechanical tension in the erect posture. The importance to each individual of the integrity of this "*musculo-mesenteric*" reflex will obviously vary with the degree of purely mechanical support—i.e., degree of fixation—afforded in any given instance, and this varies widely.

The study of visceroptosis, then, is to be divided into two groups: (*a*) results of the breakdown of the normal visceral supports, and (*b*) factors favouring such a breakdown.

(*a*) The mesentery assumes the function of visceral support and the resulting tension on nerves (afferent and efferent), blood-vessels, and lymphatics is responsible for symptoms which are often far-reaching and progressive.

Nerves.—These run in company with the blood-vessels and lymphatics, and, like the latter, when there is a minimum of fat and areolar tissue in the mesentery, become themselves responsible for visceral support. As we have seen in the case of inflammation, so also in mechanical stimulation, both efferent and afferent impulses arise. Direct stimulation of the efferent sympathetic inhibits the bowel and leads to stasis over the area involved; while the consequent overloading of the bowel adds to the mesenteric burden and further increases the tension. The result of the afferent stimuli is a generalised efferent sympathetic response of varying degree, leading to such remote results as general inhibition of the whole intestinal tract (especially the colon),[4] pyloric closure with consequent increase of gastric distension, inhibition of the gall-bladder with stagnation of bile and a consequent predisposition to gall-stone formation, &c.

In support of these views may be mentioned the regularity with which general visceroptosis is found in the subjects of gastric ulcer. This is in sharp contrast with the majority of duodenal ulcers. Also, in the absence of primary disease of the gall-bladder itself as a cause of gall-stones, the existence of these is practically always associated with general visceroptosis. Further, typical gall-bladder attacks (in the absence of stones) due to over-distension of the gall-bladder are exceedingly common in sufferers from visceroptosis.

FIG. 5.

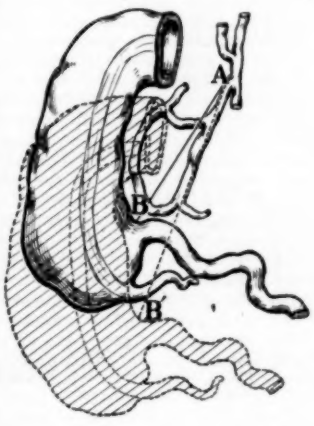


Fig. 5 shows how it is that the results of mesenteric tension are first felt in the ileocæcal-ascending colon region. Here the tension is virtually in the long axis of the main vessels to the part, so that the associated nerves very early feel the strain (*A–B—A–B'*). In this region, too, we have to remember that the vagus will share in the general stimulation. The result is (as we have seen in considering acute appendicitis) that the efferent vagus response will tend to excite hyperactivity of the stomach, hyper-secretion, patent pylorus, &c. This being so, we have only to find some factor which tends to diminish sympathetic stimuli—e.g., tobacco,[5] &c.—to appreciate how mesenteric tension (or other mechanical stimulus) in the vagus area—i.e., the right and proximal transverse colon—may give rise to a domination of vagus over sympathetic impulses, and thus establish a predisposition to duodenal ulcer. This is in contrast with the sympathetic domination associated with *general* visceroptosis, where, given the necessary exciting conditions, an ulcer is more likely to be gastric.

Veins.—Tension on the veins must of necessity tend to diminish their calibre, render the venous return more difficult, and induce stasis in the smaller vessels

[4] Hunterian Lecture, THE LANCET, 1920, i., 1299, 1345.
[5] Pathology and Symptoms of Duodenal Ulcer, Brit. Med. Jour., June 14th, 1924.

of the gut. Here we have an all-important factor in causing the distension and constipation associated with visceroptosis, since the necessary muscular contractions are impaired in the presence of continued venous stasis. This again is particularly marked on the right side (Fig. 5) for reasons already given. And I would emphasise this point—namely, that venous congestion arising from mesenteric tension in the upright posture is accentuated by the fact that *veins of the portal system are devoid of valves.*

In support of this view, that there is a variable measure of intestinal venous stasis in sufferers from visceroptosis, it is noticeable that, where symptoms are pronounced or long standing, the small arteries in the ileocæcal region will frequently be found abnormally elongated and tortuous.

Arteries.—It is unlikely that any mechanical interference with the arterial supply can result directly from traction on the mesentery, but reflex vaso-constriction, arising from the generalised sympathetic stimulus, may play a part in the defective circulation of the gut.

Lymphatics.—Much that has been said in the case of the mesenteric veins may apply with equal importance to the lymph stream. For interference with absorption may partly account for the wasting so commonly seen in this class of case. Further, the consequent loss of fat within the mesentery accentuates the liability to mechanical interference with these vital structures under increased tension.

Finally, it is evident that the overloading of the bowel arising from inhibited muscular action tends of itself to increase mesenteric tension; and this again must aggravate the muscular failure. The bowel then becomes progressively distended and thinned—a characteristic feature. Where right-sided aching or dragging pain, relieved by rest, is *the only symptom* complained of, it will frequently be found that adventitious adhesions or bands anchor the bowel to the sensitive lateral peritoneal wall. The mesentery is thus spared, but pain results in the erect posture. It is evident, therefore, from a consideration of the pathology, that where symptoms arise from visceroptosis the condition is bound to become progressive, unless adequate treatment is adopted on lines directed towards the protection of the mesentery.

(*b*) *Reasons for the Breakdown of the Mechanism of Visceral Support.*—The primary factor is the absence of the mechanical supports already mentioned; and these have been stated to be congenital and atavistic. Under these conditions—i.e., congenital mobility of the colon—the compensatory reflex (which is almost entirely responsible for visceral support) may break down from several causes, some of which may be mentioned. Commonest among these are: (1) diminution of intra-abdominal pressure, and (2) overloading of the colon.

(1) This may occur in a variety of ways:—

(*a*) *Puberty.*—The widening of the pelvis occurring at this time is sometimes associated with the onset of aching on the right side, or by intermittent attacks of pain often accentuated just before the menstrual period. Clearly the increased pelvic accommodation will favour visceral descent, while the hyperæmia, so pronounced at this time, accentuates the liability to vascular engorgement. In sufferers from visceroptosis it is exceedingly common to find the symptoms aggravated just before the period and relieved after the onset. Further, the relief of pain in the horizontal posture is characteristic.

(*b*) *Childbirth.*—Here the widening of the pelvis, together with the impairment of the abdominal and pelvic muscles, still further interferes with visceral support and causes mesenteric tension. As we have seen, this is most commonly shown at first in the right-sided drag, so commonly complained of. Reflex effects on the intestinal tract, stomach, and gall-bladder follow later; and frequently all are accentuated at the time of the period. Frequency of micturition in the day and its absence during recumbency at night are a later indication of the descent of the kidney with venous congestion consequent on the tension on its pedicle. The onset of symptoms dating from childbirth is exceedingly common, and clearly demands attention to the abdominal and pelvic muscles as a means of restoring efficient visceral support. But when symptoms arise at or soon after puberty and the abdominal and pelvic muscles are faultless, my experience has been that symptoms almost invariably recur and are progressive. In such cases an efficient right-sided colopexy is invariably successful. It will also be required in about 60 per cent. of the second class.

If these principles are accepted it will be found that a great many valueless appendicectomies may be avoided.

(*c*) *Defective Muscular Nutrition.*—Occupations involving deficient oxygenation, chronic toxæmia from any cause, particularly when associated with constant standing, are often associated with a failure of the whole muscular system, including the abdominal and pelvic musculature.

(*d*) *Standing occupations* are often responsible for the onset of symptoms. You all know that any reflex will break down under fatigue; and it is only rational to recognise that the "musculo-mesenteric reflex" should fail under insufficient rest.

(2) *Overloading of the Colon.*—This may well initiate mesenteric tension (when fixed support is defective) and, as you know, it may arise from a variety of causes. Prominent among these are habit (commonly started in childhood); dyschezia (which I believe to be anatomical in most instances),[6] mental, improper food,[7] in some instances a gross lesion—i.e., appendix, tubes, &c. Causes are legion and I only give examples.

In conclusion, may I say that I have not attempted to deal in detail with any of the disorders mentioned because my object has been an attempt to present to you the principles involved, and to emphasise the fact that in the health of the gastro-intestinal tract (and in the symptoms of disease of that tract) the mesentery is the first consideration. This is not generally accepted in the treatment of visceroptosis; but I would ask you to give this particular question your close consideration. And, while you will appreciate that any detailed criticism of the various forms of treatment (exercises, correct breathing as advocated by McMahon,[8] indications of operation, &c.) are beyond the scope of this discussion, some general deductions are justified.

CONCLUSIONS.

A great part of abdominal surgery should be directed towards the protection from damage of so vital a structure as the mesentery, whether by infection or mechanical trauma. In the latter instance a large group of disorders arise primarily from visceroptosis, whether local or general. Treatment in such cases should always be directed towards protection of the mesentery from undue strain. Sometimes this can be done by conservative measures; sometimes these can achieve no permanent improvement. And in some instances this can only be achieved by the surgical remedy of the defective mechanical visceral support.

The indications for surgical interference are a debatable question of sufficient importance to form a subject of itself. But this much may be said in conclusion. I have practised the operation of colopexy in different forms and degrees for about 18 years, in many hundreds of cases with an increasing degree of success. This is due to more accurate selection of cases with increased experience. I am quite convinced that a rejection of this simple and safe surgical measure is due either to a failure in technique, to a failure to realise the principles upon which the selection of cases should be based, or, more often, to neglect of efficient after-treatment.

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[6] Hunterian Lecture, THE LANCET, 1920, i., 1299, 1345.
[7] Lieut.-Colonel R. McCarrison: THE LANCET, 1922, i., 207.
[8] McMahon, C.: Method of Treatment of Visceroptosis, THE LANCET, 1925, i., 108.

INSTITUTE OF HYGIENE.—The President, Sir Thomas Oliver, will receive the guests at a reception to be held at 28, Portland-place, London, W., on Thursday, Feb. 25th, at 8.45 P.M. The museum, which contains many exhibits of interest, will be on view, and there will be a special display of scientific apparatus and a practical cooking demonstration.

FOCAL SEPSIS AS A FACTOR IN DISEASE.

Being the Opening Paper at a Discussion at the Royal Society of Medicine on Feb. 15th, 1926,

BY GEORGE R. MURRAY, M.D. CAMB., F.R.C.P. LOND.,

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DURING recent years much attention has been drawn to focal sepsis, and we have learned how important a part it may play in the causation of disease and in the progress of a malady already present. In order that we may, as far as possible, have a definite idea of what we are discussing, I propose to outline the various ways in which focal sepsis may become a factor in disease. These will be illustrated by a few brief clinical sketches of personal experiences, in most of which, owing to the circumstances under which they occurred, no bacteriological examination was made.

A malady may be initiated, or its course affected, by a local infection in several different ways. First, the bacteria causing the focal infection may be discharged and conveyed by mechanical means, so as to cause extension of the disease by reinoculation. Second, the bacteria present in the original focus may overcome the local resistance and be conveyed to distant parts of the body by way of the lymphatics and the blood. Once the bacteria leave the original focus either singly or in clumps, they may be arrested by the nearest lymphatic gland and set up a lymphadenitis which may develop into an abscess. If the infection passes this barrier, three things may happen: (*a*) If the organisms are virulent, they may multiply in the blood and set up either an acute or chronic septicæmia. (*b*) If the bacteria do not multiply in the blood they may be conveyed alive to a suitable nidus where they multiply and infect the surrounding tissues. (*c*) If the bacteria conveyed by the blood are unable to gain a real footing anywhere, they may, by the process named subinfection by J. G. Adami,[1] produce a slow but progressive atrophy with replacement fibrosis in various organs of the body. Third, the micro-organisms may remain enclosed at the seat of focal infection from which their toxins are slowly and continuously absorbed so as to cause either temporary alteration in the structure and function of the blood and other tissues or possibly permanent structural changes, such as fibrosis, in important organs.

Mechanical Conveyance of Infection.

A few practical illustrations of the influence of focal sepsis will be given under the headings just mentioned. The results of the mechanical conveyance of infection are seen, in a simple form, in a case of furunculosis, in which the staphylococci are conveyed by the fingers or by the clothing from the primary boil to other parts of the skin, where reinfection takes place. In open oral sepsis, due either to the decomposition of food particles or tartar deposited in the gingival trough, or to pyorrhœa resulting from chronic periodontitis, bacteria are constantly brought into contact with the tongue and pharynx, and may set up superficial glossitis or pharyngitis. Infection is occasionally conveyed up Stenson's duct to the parotid gland. Thus I have seen a man who was laid up with a unilateral parotitis, which persisted until it was realised that it was due to an ascending infection from a septic molar tooth situated near the opening of Stenson's duct. As soon as the tooth was removed the parotid gland recovered.

In both oral and nasopharyngeal sepsis many bacteria are swallowed. In a normal stomach they are usually destroyed by the gastric juice. In a small proportion of cases the resistance of the stomach is impaired and a chronic gastritis or gastric ulcer develops. A man of 58 gradually lost his appetite, the weight decreased by 3 st., and there was vomiting. When I saw him he was lying in bed, weak and emaciated, and the skin of the face and neck was pigmented, so that the symptoms were suggestive of malignant disease of the stomach. Physical examination yielded no sign of abdominal or thoracic disease, but revealed marked oral sepsis. A diagnosis of septic gastritis was made and proved to be correct, as treatment by the immediate use of an antiseptic mouth-wash, removal of the teeth, and the internal administration of manganese dioxide was followed by complete recovery in the course of a few months.

The infection arising from oral sepsis may pass through the stomach and cause infection of either small or large intestine. A boy, who was seen some years ago, was in poor general health owing to severe oral sepsis. The relations were advised to have the teeth removed at once and were warned of the danger of delay. Unfortunately, extraction of the teeth was refused, and a few months later the boy developed severe ulcerative colitis and died. A septic gall-bladder, by discharging bacteria along the common bile-duct, may infect the bowel lower down. In the case of infection of the gall-bladder by the typhoid bacillus, the host becomes either a temporary or chronic "carrier," and so a source of infection which may set up typhoid fever in others. The long duration of this focal infection in some cases is illustrated by the records of "carriers," mentioned by Prof. Topley,[2] who have continued to infect the healthy for as long as 25 years. An infected but still patent appendix may cause ill-health by continually discharging its contents into the cæcum. Sir Rickman Godlee,[3] in one of the earliest papers dealing with this subject, recorded such a case in which the chief symptoms were pallor, loss of appetite, loss of weight, slight fever, and the passage of offensive motions. Complete recovery followed the removal of the diseased appendix.

Infection from the mouth may pass directly, not only to the alimentary canal, but to the respiratory organs. A woman, on account of dental sepsis, had several teeth extracted while under general anæsthesia. During, or just after the operation, she unfortunately inhaled either some inspissated pus, or possibly a small fragment of an infected tooth, into a bronchus. This set up an acute local infection of the lung which, by the time I saw her, had become gangrenous and shortly afterwards proved fatal.

Transference of Infecting Organisms by the Blood.

When bacteria which at first were confined to a local area find their way into the blood, a general septicæmia may result. This sequence of events has occurred only too frequently in those tragic cases in which a surgeon during an operation, or a pathologist while making an autopsy, has received a slight wound which has become infected, and the infection, spreading later to the blood, has caused a fatal septicæmia. Micro-organisms which gain access to the blood may be unable to multiply until they reach some tissue for which they have a selective affinity, and in which they can multiply sufficiently to set up a definite lesion. A healthy young farmer, in the course of a quarrel, received a wound in the forehead from a tumbler which was thrown at him. The wound was dressed once by a surgeon. He returned to his work on the farm, but took no further care of the wound. This became infected, probably by his hands while at work, cellulitis of the neck followed, and finally acute malignant endocarditis ended a promising career.

In closed oral sepsis, such as occurs when an abscess forms at the root of a tooth, streptococci may be forced into the general circulation by the intermittent pressure exerted on the tooth during mastication. Under these circumstances the streptococci are liable to be lodged in the joints or periarticular structures. When we are confronted by an arthritis or other malady which may be caused by secondary infection from some occult focus of sepsis and in which the mouth looks harmless, let us not "forget the poisonous dregs that lurk beneath," but insist on an X ray

examination of the gums. A middle-aged man, who for some time had resided in another country, consulted me on account of an early arthritis which had already involved several joints. He assured me that his teeth had been well looked after and were in good condition. On inspection the gums looked healthy, but many of the teeth were crowned with gold. An X ray examination revealed the presence of abscesses at the roots of several teeth. Removal of the affected teeth was at once followed by rapid improvement in the arthritis.

Sir William Willcox [4] has shown the frequent relationship between oral sepsis and arthritis, and agrees with Dr. A. P. Beddard that 90 per cent. of cases of rheumatoid arthritis in man are due to this cause. Rosenow [5] has shown that muscular fibrositis may be caused by the lodgment of streptococci of low virulence in the capillaries near the tendinous insertions of the affected muscles. This is apt to occur when the original focal sepsis is due to the *Streptococcus viridans* and other non-hæmolytic strains, the actual lesion in the muscle being due to subinfection. The relationship between oral sepsis and severe secondary and pernicious anæmias has been shown by Dr. William Hunter [6] to be of frequent occurrence. Focal sepsis is, however, not the only cause of these conditions, as pernicious anæmia develops in persons who have been toothless for years and in whom no septic focus can be found. In connexion with the affinity of streptococci for the joints and periarticular structures, the work of Rosenow may again be referred to. He showed that streptococci cultivated from a septic focus in man had an elective affinity for the same tissue in a healthy animal as that from which they had been taken. Thus, streptococci taken from a cholecystitis were, on inoculation, much more likely to reproduce the same condition than any other lesion. He also found some evidence in favour of the view that the toxins produced by the streptococci may have a similar selective action on the tissues. Rosenow suggests that this selective action may depend on the amount of oxygen and food-supply available in different parts of the body as each strain of streptococci has its own special requirements. This peculiarity may be one of the factors which, fortunately, enable many persons to resist secondary infections and the ill-effects of toxæmia altogether, or, at any rate, for long periods. This resistance, in the case of oral sepsis, for example, may partly be due to a tolerance acquired by the long-continued presence of large numbers of streptococci in the mouth and in the bowel of normal individuals.

Sir Frederick Andrewes [7] has drawn attention to Dr. Gordon's examination of the buccal secretions which, in healthy human beings, were found to contain from 10 to 100 million streptococci to the cubic centimetre. In the bowel, where the *Bacillus coli* group and streptococci predominate, Houston has found the latter may exceed the former and be present to the number of 1000 million per gramme of the fæces. When we recollect that one-quarter of the fæces consists of bacteria, a large proportion of which are dead by the time they are voided, we can realise how great is the natural resistance to such inhabitants as long as they are outside the tissues. When ill-effects occur they are due to the virulence and numbers of bacteria which cause the development of focal sepsis, or to a lowering of the resistance of the host, or to a combination of both factors.

The joints are not the only structures liable to suffer from metastatic infection from the gum or the tonsil. During an epidemic of streptococcal tonsillitis in a Lancashire town I saw a young man suffering from acute nephritis which had followed an attack of tonsillitis. Streptococci were present in the urine, so that the nephritis was evidently secondary to the focal sepsis in the tonsil. This epidemic affected a considerable number of people but, as far as I could ascertain, nephritis was quite an exceptional complication. Not only may metastatic infection originate from a septic focus, but it may continue to be active as long as the primary focus is allowed to remain. In these cases it seems probable that the secondary infections are being continually reinforced or renewed from the primary focus. A striking example of this persistent effect of focal sepsis in a case of rheumatism has been communicated to me by Dr. C. P. Lapage, who will publish full details. A boy, aged 10, continued to suffer from recurrent attacks of rheumatism with sore-throat, fever, severe mitral endocarditis, and unusually large subcutaneous nodules. Treatment by rest, salicylates, and change of climate failed, and so, finally, the tonsils were removed. After this there was no recurrence of sore-throat, the nodules disappeared, and cardiac compensation developed so well that he was able to go to school five years after the first illness. It is important to remember that if the focal sepsis remains undetected and unrelieved it may continue to exert its evil influence on health over long periods. Godlee described a case in which several sequestra, which were ultimately discovered in the femur, had caused recurrent abscesses at intervals for 40 years.

Absorption of Toxins from a Septic Focus.

So far, the relationship between focal sepsis and the disease attributed to it is fairly clear. This relationship is more difficult to prove when there is no actual metastatic infection, but the morbid process is due to the action either of exotoxins formed locally and conveyed to other parts of the body, or of endotoxins liberated in cases of subinfection during the dissolution of the bacteria lodged in the tissues. In many cases it is not possible to distinguish between these two processes. One form of disease, amyloidosis, affords an example of definite tissue changes resulting from the continued absorption of toxins from a septic focus. A boy, whom I saw with a country practitioner long since deceased, had an empyema unrecognised until it began to leak through a small orifice just below the left nipple. The only treatment which had been attempted was the insertion into the sinus of a piece of the fine rubber tubing commonly used in association with Southey's tubes, which only allowed the pus to escape in drops. The liver and spleen were greatly enlarged owing to amyloid infiltration. Efficient drainage of the empyema was followed by recovery, and, though I did not see the boy again, I was informed that ultimately the enlargement of both liver and spleen disappeared. Godlee [3] recorded a similar case in which a small but imperfectly drained empyema caused lardaceous disease of the liver and kidneys, with marked clubbing of the fingers. Free drainage led to the closure of the empyema, and this was followed by disappearance of the clubbing of the fingers and of the lardaceous disease, except for an occasional slight albuminuria. In another of his cases, a patient with long-standing empyema had refused operation and pulmonary osteo-arthropathy developed. This condition disappeared after the empyema had ruptured and discharged through a bronchus. Chronic ill-health or severe and acute illness may be due to the absorption of toxins from an unsuspected source, and Godlee showed the importance of hidden drops of pus: "the unseen pus that walketh in darkness and wasteth at noonday."

It is remarkable that even a large septic focus may be the unsuspected source of an illness. This was well illustrated by the case of a man who was acutely ill with a high and irregular temperature and other indications of a severe toxæmia for which no cause had been found. He had a cystic goitre which had been present for a long time, but had caused no special inconvenience. On examining this patient I found that the goitre yielded a resonant note on percussion, and suggested that this curious sign was due to infection of the cyst by the *Bacillus coli*, which is a gas-forming organism, and that this local infection was the cause of the toxæmia. I know it may be objected that there is as yet no definite proof that the *B. coli* produces exotoxins. It should, however, be remembered that the existence of streptococcal exotoxins has only been recently proved. When the cyst was opened it was found to contain gas and pus

which gave the characteristic smell which indicates the presence of the colon bacillus. No bacteriological examination was made, so that there may have been a mixed infection, but the rapid recovery which followed drainage of the cyst clearly indicated the relationship of the infected cyst to the illness. In cases of oral sepsis the disappearance of anæmia, lassitude, and other signs of toxæmia on the removal of septic teeth, before the insertion of artificial dentures, is regarded as sufficient evidence that the ill-health was due to sepsis and not to dental deficiency.

While mentioning the beneficial results which usually follow the removal of a septic focus, it may be pointed out that there may be more than one focus, and also that focal sepsis may not be the only cause of the symptoms in any particular case, so that other foci and conditions must be looked for if the expected improvement does not follow the removal of a septic focus. The treatment of a septic focus is not altogether free from danger. An acute temporary exacerbation of the symptoms frequently follows the removal of septic teeth, owing to the absorption of an extra dose of bacteria and their toxins during the operation. Occasionally this has been followed by hæmic infection and fatal septicæmia. Godlee mentions cases where the opening of an abscess, which up to the time of the operation had caused no serious disturbance of health, was followed by a fatal result.

We know very little of the effect of focal sepsis on the pregnant woman and the unborn child. The results of dental sepsis in the nursing mother and her child have been described by H. Waller.[8] He shows that the secretion of milk may be diminished by one-half, so that the child's weight remains stationary or increases very slowly. In addition, the child shows dislike of the milk and is sick. After removal of the teeth, lactation increases and the child flourishes. This ill-effect is apparently exerted by toxins secreted in the milk, as bacteriological examination of the milk was negative. Waller found that this wasting and vomiting in breast-fed children was due to oral sepsis in the mother in 160 out of 200 cases.

The relationship between focal infection and diseases of the skin, which has been recently reviewed by Dr. H. Leslie Roberts,[9] cannot be dealt with here, nor can the relationship of sepsis to certain forms of glycosuria.

The endocrine glands are not very susceptible to the influence of focal sepsis. In the course of acute rheumatism the thyroid gland may be enlarged and tender. I have seen exophthalmic goitre develop directly after an attack of acute rheumatism, before the patient left the hospital, but this sequence is rare. H. Vincent has, however, observed both exophthalmic goitre and myxœdema as sequels of acute rheumatism. Billings [10] has observed cases of exophthalmic goitre with dental or tonsillar sepsis which rapidly improved on removal of the sepsis. I have seen very few cases of disease of the thyroid gland in which focal sepsis could be regarded as the cause of the malady. In only two of a series of 300 private cases of exophthalmic goitre was such a focus found.[11] In cases of hyperthyroidism and exophthalmic goitre focal sepsis may aggravate the condition or retard recovery. Marked improvement follows removal of sepsis in these cases, but the symptoms do not disappear, as one would expect if the sepsis had been the prime cause of the thyroidal disease. The pituitary and suprarenal gland are even less susceptible. Acute pancreatitis may follow oral sepsis, possibly by way of an ascending infection from the bowel.

In the present discussion it would carry us too far afield to consider the influence of what may be called systemic, rather than focal, infection in disease, though the modes of exerting such influence are similar to those we are considering. Under the heading of systemic sepsis may be included infections of the bronchi, bile passages, and genito-urinary organs which may lead to distant lesions such as gonorrhœal rheumatism. For the same reason the results of the absorption of toxins from the alimentary canal in cases of intestinal stasis is beyond the scope of the present discussion. I should like, however, to mention in passing that, as far as my own experience goes, the latter condition is much less frequently a cause of disease than has been stated by some writers. In fact, excluding examples of gross organic disease or malformation, I cannot recall a case in which excision of any portion of the bowel was necessary in order to remove a possible source of toxæmia.

Summary.

The present situation may be briefly summarised by stating that the most frequent sites of focal infection are to be found in the head, in the diverticula of the alimentary canal, and in the genito-urinary organs. The bacteria commonly concerned in these infections are nearly all micrococci; streptococci of various strains, staphylococci, pneumococci, and gonococci. To these may be added the colon bacillus and other members of the same group, and on occasion various other bacteria may play a part. The maladies which are most likely to result by the direct mechanical conveyance of bacteria from a focal sepsis are infections of the skin, alimentary canal, and respiratory passages. Hæmic infection or subinfection and toxins conveyed by the blood may cause septicæmia, malignant endocarditis, secondary and pernicious anæmia, acute and chronic arthritis, neuritis, fibrositis, certain diseases of the skin, and occasionally inflammation of either secretory, incretory, or excretory glands.

References.

1. Adami, J. G.: Brit. Med. Jour., 1914, i., 177.
2. Topley, W. W. C.: THE LANCET, 1919, ii., 2.
3. Godlee, Sir R. J.: THE LANCET, 1903, ii., 1551.
4. Willcox, Sir W. H.: Brit. Med. Jour., 1921, i., 805.
5. Rosenow: Jour. Amer. Med. Assoc., 1915, lxv., 1687.
6. Hunter, W.: Oral Sepsis as a Cause of Disease, 1900 and 1921.
7. Andrewes, Sir F. W.: THE LANCET, 1906, ii., 1416.
8. Waller, H.: THE LANCET, 1916, ii., 785.
9. Roberts, H. Leslie: Brit. Jour. of Dermatology and Syphilis, November, 1921.
10. Billings, F.: Jour. Amer. Med. Assoc., Sept. 13th, 1913, p. 319.
11. Murray, G. R.: Brit. Med. Jour., 1922, ii., 909.

THE TREATMENT OF RODENT ULCER

(BASAL CELL EPITHELIOMA), WITH ESPECIAL REFERENCE TO RECURRENCE.

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THE term "rodent ulcer" has become established in this country by long usage, but it is essentially a bad one. It tends to distract attention from the real nature of the condition which it purports to describe. The problem of cure is presented as one concerned with the healing of an ulcer, instead of the eradication of a malignant neoplasm.

The rodent is usually, but not always, a horizontally extended tumour — originating in the sebaceous glands, sweat glands, or hair follicles— which tends at a comparatively early stage to surface necrosis. Occasionally, however, a definite tumour appears. This takes the form of a small flattened lump, projecting perhaps an eighth of an inch above skin level. It is covered by normal epithelium, and may progress slowly for months or years without ulceration. In this type it is obvious what we are dealing with—it is a basal cell epithelioma pure and simple; but we should learn to regard all rodents equally as genuine new growths. Despite the fact that basal cell epithelioma does not tend to metastasise, and that its progress for a long time may be slow, it does recur with much persistence; and no one who has watched the terminal stages of an unsuccessfully treated case can doubt that it is, in the full sense of the word, malignant.

Up to the end of the nineteenth century there were practically only two ways of treating rodents—by

surgical excision and by caustics. Since then it has become possible to cause the disappearance of these growths by a number of methods—X rays, radium, carbon dioxide snow, "ionisation," and the diathermic cautery. Cosmetic results have been greatly improved, but, despite this wide choice of means, the percentage of recurrences, so far as can be ascertained, is substantially unaltered.

X Ray Applications.

The remarkable manner in which basal cell epithelioma melted away under X ray applications led the early workers to believe that an almost magical cure had been discovered. Within a year or two, however, recurrences were reported. At this time it was held that X rays killed malignant cells while damaging to a less degree the normal tissues. This is the doctrine of selective lethal action, which has been responsible for both good and evil in the history of radiotherapeutics. Looked at from the point of view of this theory, recurrence was regarded as evidence of insufficient initial dosing. For some time it was not possible greatly to increase the dose, as the soft unfiltered rays then in use soon caused irritation if pushed. Presently came the aluminium filter, and apparatus was built to give hard rays. Optimistic predictions were made to the effect that rodent ulcer would now really be cured, as it had become practicable not only to give much heavier doses, but to attain approximately equal irradiation of all cells to a depth of several millimeters.

Nevertheless, the recurrence rate continued much as before. Treatment up to this point had been by divided doses. In 1911 J. F. Gaskell published some researches on the effect of X rays upon chick embryos, in which he showed that, in order permanently to stop development, a certain minimum quantity, which he called the "critical dose," must be administered. This varied according to the degree of metabolic activity, and any lesser dose, or division of the critical dose, was without effect. I suggested, in a paper read before the Radiology Section of the British Medical Association at Liverpool in 1913, that the principle of the critical dose might be applicable to the treatment of rodent ulcer; and, in the brief time before the reading of this paper and the outbreak of war, I endeavoured to put into practice the "critical dose" in the treatment of basal cell epithelioma.

I found that a concentration of dosage produced a smart reaction, followed by rapid healing. The war intervened, and attempts to trace cases in 1919 were only partially successful. So far as they went they showed that recurrences had occurred in several instances. Clinical experience since then has led me to believe that, while concentration of dosage gives good results in many cases and is a convenient method, it affords no guarantee against return.

Radium Treatment.

Radium treatment has gone through much the same phases—first, the prolonged application of small quantities of unscreened radium; later, short treatments by large quantities heavily filtered. Here, again, no panacea against recurrence has been found. Not only do recurrences occur with any form of radiation treatment, but, as a rule, they yield slowly, if at all, to further application of the same type of radiation. On the other hand, a method which is, in essence, stimulative, as with so-called ionisation with zinc, may effect a cure. These facts have been obvious for many years, yet some writers continue to preach the doctrine of the lethal dose. It was revived and preached with the fervour of a *Jehad* by the Erlangen School in 1921, but is now falling into disfavour even in the country whence it was so fiercely promulgated. I myself realised, even when advocating an attempt to find a "critical dose," that stimulation of the normal tissues counted for a good deal in any "cure" of cancer by X rays. That such rays have a directly depressant action upon malignant cells is certain; but the more I see of radiotherapy in cancer, the more am I inclined to stress the importance of stimulation of the normal tissues as the chief factor in any non-surgical cure. An appreciation of the fact that the cause of the disappearance of a basal cell epithelioma under radiation treatment is in the main due to an excitation of normal defence mechanisms makes clear the futility of attempting to give "lethal doses," and points the way to the proper treatment of recurrent growths.

It appears to be a physiological law that living cells eventually become "stale" to the frequent repetition of a given stimulus. It is also true that cells in this condition of staleness may nevertheless respond quite well to an excitant of a somewhat different nature. What I may call the *principle of the varied stimulus* is a most important one in medicine, and its application in the case of recurrent rodent ulcer is productive of excellent results. Neglect of it, on the other hand, leads to disaster. I regret to say that even now one frequently comes across cases in which, in the face of the most definite failure of response, X rays or radium have been persisted in for months—with the result that the capacity to react to any stimulus has sometimes been destroyed. I am fully aware that recurrences may respond to the same agent which originally succeeded; but if the response is going to be satisfactory the fact is evident within a few weeks. Persistence beyond a very short period is, in my experience, a grave error of judgment. In non-malignant cases, such as lupus, obstinacy and ignorance disguised as perseverance may actually cause the lesion to become cancerous, and thus discredit is cast upon X ray therapy in general.

Resensitisation.

X rays and radium have such advantages over other forms of treatment as regards cosmetic result and painlessness of application that there is a great temptation to try them again in case of a recurrence. The patient, also, is generally anxious to have again what he found so successful upon the first occasion. To yield to these seductions is harmless, provided a strict time limit is observed. But what is to be done if, at the end of a month, there is no improvement—or if the condition, having responded for a time, ceases to progress favourably? It is of vital importance to recognise that the tissues must be treated by a different stimulus, or "resensitised" to the original stimulus before any further progress can be made.

Change of Stimulus.—A rodent ulcer which has ceased to respond to hard X rays or to the gamma rays of radium may sometimes be started off again in the right direction by rays of widely differing frequencies—e.g., by soft X rays, or even by ultra-violet rays. Instead of changing the stimulus, we may discontinue the radiation treatment for a time, meanwhile seeking by some means to resensitise the tissue cells—i.e., so to alter them that they become again capable of responding to the original radiation.

Resensitisation.—One of the best means of restoring response is surgical scraping, carried to a point where free bleeding results. It would appear as if prolonged raying used up certain essential substances in the tissues; but that a fresh blood-supply restores these constituents and enables further response to take place. If curettage is done, it is very important to begin X rays immediately upon the raw surface, and to clean the wound every day from sloughs or coatings of congealed pus. Treatment should be by small doses three times a week until healing has occurred. The scraping should extend well beyond the actual ulcer, any raised edges being levelled.

Surgical curettage is suitable only in the case of small rodents in situations where a local anæsthetic is alone required. In selected cases freezing with carbon dioxide snow serves the double purpose of producing a fleeting loss of sensation—which, however, lasts long enough for the curette to be used—and producing a smart reaction which in itself is helpful. If a general anæsthetic is necessary, it is much better to use the diathermic cautery. To this I shall refer later.

An alternative method of resensitisation is to "ionise" with zinc or copper. It is held by some that there is a relationship between potassium starvation in the cells and malignant multiplication; and to add some potassium salt to the solution, for use under the positive pole, can at least do no harm. Interest in the effect of secondary X radiations from metals first led me to try this procedure in the year 1912. The ulcer was ionised with a view to depositing in it fine particles of zinc or copper, which were to act as sources of secondary radiation when excited by an X ray tube. They were supposed to give rise to *pandrastic* rays within the tumour—i.e., to rays issuing in all directions from numerous points. Subsequent investigation has cast doubt upon this theory, but there is no question but that the practical results are often brilliant. It now appears to me probable that the galvanic current itself in some way restores the power of the normal cells to respond to radiation—perhaps, in part at least, by provoking an inflammatory reaction. When ionisation plus X rays succeeds, the cosmetic results are all that can be desired.

Diathermic Cauterisation.

The treatment thus indicated of recurrences by radiation, even when procedures aiming at resensitisation are carried out, should not, in my opinion, be tried for more than two months. The ultimate resort is destruction by the diathermic cautery. This always necessitates a general anæsthetic. Ether may be used provided that the bottles, &c., are removed to a safe distance during the actual progress of the operation.

The method used should be thermo-coagulation, and not fulguration or sparking. I am personally in the habit of placing the cautery in position before the current is turned on. The resistance should be placed at its maximum—i.e., the current at its weakest—and the lever very cautiously advanced. Unless working with an apparatus with which one is very familiar, it is desirable to test first upon a piece of meat, and to mark a place upon the resistance beyond which the assistant must in no circumstances move the lever. The capacity to decide rightly how much to do in a given case can be acquired only by experience. Personally, I have no hesitation in thus treating growths even when they are in close proximity to the eyes. Involvement of the eyelid itself is not always a bar to successful treatment by diathermy. Reaction in the treated area and its surroundings is often alarming upon the day following the use of the diathermic cautery; but in this general disturbance lies much of the value of the procedure. Nor is the invasion of superficial layers of bone a contra-indication. Such layers may be devitalised, and are then either thrown off within a few months, or remain in statu quo for long periods. Some time ago Dr. E. P. Cumberbatch showed us at a meeting of the Electrotherapeutic Section, Royal Society of Medicine, a case of epithelioma of the scalp, which had been treated many years previously by diathermy. An area of necrosed bone about the size of a shilling was visible at the vertex of the skull. It gave the patient no trouble, and the disease had not recurred.

In the case of subjects in good general health, for a basal cell epithelioma to have reached the stage of bone invasion generally argues carelessness or fear on the part of the patient. We cannot prevent the recurrence of rodents, even when they are treated early and in the best manner possible. But the free interval should be one of years, and a return, if it does occur, ought to be dealt with immediately upon the lines above suggested. This demands coöperation between patient and doctor. When such coöperation is forthcoming, I am firmly convinced that the terrible ravages which are still sometimes seen as a result of this disease need never occur.

I should say, almost never. For to this optimism there is one exception. The control of any form of cancer depends ultimately upon the stimulation of natural powers of resistance, local and general. In a healthy man the defensive mechanisms, suitably evoked, are always capable of dealing with one small malignant focus. But when the victim is the subject of some intercurrent disease, it may be quite impossible to stop the spread even of a small rodent. A basal cell epithelioma which is healing well under suitable therapy may, in the presence of a severe attack of influenza, suddenly run amok. Such unfortunate cases call for the utmost skill and care in deciding what shall be done. When the illness is acute it is probably best to suspend local treatment until constitutional recovery has taken place, and then deal radically with the growth by diathermy. In the case of chronic debilitating complaints, it is only too probable that the rodent will continue to spread in spite of anything that we can do; but treatment of the whole body by various forms of light may help in some cases.

Cosmetic Results.—The best results from the point of view of appearance are those where some form of radiation has alone been used to effect a cure. This is, no doubt, due to the fact that radiation does not add anything to the destruction which has already occurred as a result of necrosis of tumour tissue. Repair commences at once, whereas all other methods in greater or less degree destroy some of the healthy tissues. In any but very large growths the scarring which follows a properly carried out diathermic cauterisation is, however, remarkably small. A great deal depends on care in after-treatment. It is essential after diathermy to secure a healthy raw surface, just as is the case after curettage. After the first fortnight loose sloughs should be from time to time gently removed by forceps, and it is most important to treat the granulating surface by X rays. If there is any tendency to sluggishness an occasional erythema dose of ultra-violet rays will expedite healing.

Summary.

(1) Radiotherapy is the treatment of election for "virgin" rodents. (2) In the case of a recurrence, rays of a different wave-length from those originally used should be employed. (3) If improvement is not manifest within a month some method of resensitising the tissues, as by curettage or ionisation, should be resorted to, after which radiation may again be given a trial. (4) If the above methods are not producing definite and continuous improvement at the end of two months the diathermic cautery should be employed. This method owes its success not merely to destruction of cancer cells, but to the sharp reaction produced in the surrounding tissues. (5) If all recurrences are dealt with promptly there should be no need for surgery in the ordinary sense of the term. When, however, the recurrence has already assumed large proportions, it may be necessary to invoke the aid of the plastic surgeon to make good what has been destroyed.

A CASE OF

ACUTE FATAL MEDINAL POISONING,

WITH NOTES ON THE ILL-EFFECTS OF THE MEDINAL HABIT.

BY E. STOLKIND, M.D. (MOSCOW AND SIENA).

MANY cases of veronal poisoning have been recorded, but I have been unable to find a single record of fatal poisoning with medinal. The following case is the more interesting in that the patient had taken medinal for insomnia three, four, and sometimes five times a week for more than eight years. He had become accustomed to the drug, and was thus obliged to take increasing doses. Another remarkable feature of the case was the ill-effects of the medinal habit (medinalism) on the patient's physical and mental condition. Medinal is the sodium salt of veronal (diethyl-barbituric acid). It is soluble in about six

times its weight of water and has a bitter taste. It is eliminated very slowly, mainly by the urine.

I first saw the patient in the summer of 1916. He was a retired literary man of 61, who came of a healthy family and was a good swimmer. Once in 1916 I saw him in the morning when he did not wake up as early as usual. On being roused he resembled a drunken person; his speech was indistinct, thick, and slightly stammering. At the time this condition was due to the cumulative action of medinal, which he had often taken during the preceding weeks in the same doses. He refused to give up the drug and went on taking it for seven and a half years.

In spite of a good appetite he continued to waste and even his muscles became thinner and thinner. He was very anæmic. He passed water once or twice in 24 hours, and in small quantity—about 10 oz. He became weaker and weaker, and during the last year he was very exhausted, often being unable to perform a little physical exercise. He suffered frequently from palpitation. There was ataxy, resembling that of a drunken person, with tremor of the extremities and of the tongue.

Most remarkable, however, was the change noticed in his mental condition. His intellectual weakness gradually increased. He seemed continually depressed and was frequently very excited and worried over trifles. His thinking, speaking, and writing capacity, as well as his actions, grew slower and slower. To find a proper expression for his thoughts took him more and more time. The speech was often indistinct, not seldom stammering, whereas before he had been a good public speaker. During the last months his memory got worse; it became difficult for him to remember anything. At last he became slow in comprehending what was said to him, and often, after taking medinal, he was incoherent, and sometimes had delusions.

On Dec. 10th, 1924, he went to bed at about 11 P.M., but did not sleep till about 4 A.M., after taking medinal. In order to avoid constipation and prevent toxic symptoms he was in the habit of taking a teaspoonful of an alkaline salt immediately after the medinal. (He took part of a teaspoonful of the drug from the bottle.) On the morning of Dec. 11th I arrived, eight hours after the poison was taken. I found on the table two bottles of medinal, but none of the alkaline salt. Exhausted and drowsy, the patient had taken a large overdose of medinal instead of the salt.

I found him in a deeply comatose state. The pupils were small and later became smaller. They did not react to light and there was no corneal reflex. At first the conjunctival reflex was present, but later it disappeared and the sensory system was completely paralysed. The lips were cyanosed and there was a large amount of mucus in the mouth. The skin became moist and the extremities were not cold. Breathing grew more and more stertorous; at first there were 24 respirations per minute, on the next day they were 45. On the first day the pulse was weak, regular, 96 per minute, but on the next day the rate rose to 150. The temperature was normal; the urine had to be withdrawn. All my efforts to rouse the patient from stupor—by washing out the stomach, administering hot coffee, injecting various stimulants hypodermically, &c.—did not succeed, and he gradually became worse, showing signs of congestion and œdema of the lungs, and died 39 hours after taking the medinal.

A post-mortem examination was made by Dr. C. T. Parsons with the following findings: Body wasted; skull thin; pia-arachnoid thickened and congested. Calcified atheroma at the base of the aorta. Cerebral arteries macroscopically normal. Both lower lobes of the lungs deeply congested and œdematous. Some petechiæ in the mucous coat of the stomach. Spleen very soft. All other organs normal.

Examination of the urine with Millon's reagent, &c., showed the presence of medinal.

Conclusions.

(1) Medinal can cause fatal poisoning in the same way as veronal. (2) The cumulative toxic effects of medinal are the same as those of veronal. (3) The medinal habit (chronic medinal poisoning or medinalism) has the same toxic action and produces the same after-effects on the physical health and mental condition of the patients as veronal poisoning. It produces almost the same ill-effects on the character of the patients as morphine.

Hampstead.

CLEAN MILK AND FOOD EXHIBITION.—The Minister of Health will open a Clean Milk and Food Exhibition at Christ Church Hall, Edison-road, Crouch End, on Tuesday, March 2nd, at 2.30 P.M. The exhibition, which has been arranged by the medical department of the borough of Hornsey and will last four days, is to be purely educational and will include special morning sessions for school-children.

UNEXPECTED MATERNAL DEATHS
OCCURRING DURING PARTURITION AND EARLY IN THE PUERPERIUM.

BY J. ST. GEORGE WILSON, *M.C.*, CH.M. LIVERP., F.R.C.S. ENG.,

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AND

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(*From the Thompson Yates Laboratory, University of Liverpool.*)

THREE years ago one of us described six cases in which death not only occurred unexpectedly, but also the cause remained undiscovered post mortem until after a bacteriological or histological examination. Four were cases of acute pneumococcal septicæmia (two in children), the fifth in an infant was early tuberculosis with a terminal infection of *Streptococcus fæcalis;* the last was also in an infant who died after tenotomy, apparently from status lymphaticus, but really from acute encephalitis (Glynn and Dun). We now describe two cases of unexpected death associated with pregnancy in which the true cause was again only determined after investigations subsequent to the post-mortem.

Death during Parturition from Acute Streptococcal Septicæmia following the Induction of Premature Labour.

CASE 1.—E. J., aged 42, a 6-para, 37 5/7 weeks pregnant, was admitted on March 6th, 1924, for the induction of premature labour. At 4 P.M. two bougies were inserted into the uterus with the usual antiseptic precautions. On March 7th, at 6 A.M., the patient's temperature rose to 101·2° F., but during the next two days it was normal. On the 9th the membranes ruptured. At 6 A.M. on the 10th the patient's temperature was 99·4°. At noon she was given 0·5 c.cm. of pituitary extract intramuscularly as labour had not commenced and an examination revealed no dilatation of the cervix. At 12.15 P.M. she complained of severe abdominal pain, and a quarter of an hour later had a rigor lasting for 20 minutes followed by a rise of temperature to 102·6°. At 1.15 P.M., as she was restless and frightened, a hypodermic injection of omnopon, gr. 2/3, and scopolamine, gr. 1/150, was administered. At 2.15 P.M. her respirations were slow and shallow, and she rapidly became pulseless and died. Just before death the fœtal parts were plainly felt through the abdominal wall, and it was believed that the uterus had ruptured.

The autopsy and bacteriological investigation were made three hours after death by Dr. D. Riding. All the organs appeared normal except the spleen, which was slightly enlarged, pale, and soft; permission to examine the brain was refused. The uterus was removed intact with the fœtus and sent to Prof. Blair Bell's department.

Bacteriological Investigation.—The spleen-juice and heart-blood were examined immediately after the post-mortem. Both contained large numbers of streptococci in pure culture. This organism most resembled *Streptococcus mitis* (Hohlman). It was bile-insoluble, and killed in ten minutes at 60° C. It gave acid and clot in milk, acid in maltose, saccharose, glucose, and lactose broth, but no change in mannite broth or gelatin. Eighteen hours old broth cultures mixed with a 5 per cent. suspension of human red blood-corpuscles produced methæmoglobin. Two mice were inoculated intraperitoneally with 1 c.cm of an 18 hours broth culture; both died in 12 hours.

Histological Investigation.—Sections of liver, kidney, and spleen showed slight cloudy swelling, and some blood-pigment lying free in the blood-vessels or occasionally inside the leucocytes. The placenta was normal. A section of the decidual portion of the uterus showed acute inflammation—namely, vascular congestion and extensive leucocytic exudation; portions of the decidua and of the superficial layers of the subjacent uterine muscle contained much blood-pigment. No bacteria were seen except in the decidua and fragments of amnion; here diplococci occurred either singly or in clusters.

Comments.—The bacteriological examination, three hours after death, proves that the patient died with, and almost certainly from, streptococcal septicæmia.

The total duration of the septicæmia was between 4½ and 2 hours, for the temperature was normal at 10 A.M. and the rigor began at 12.15 P.M. This is very short. One of us, however, has described the case of a boy of 15 who died after 6½ hours illness from an infection with the pneumococcus (Glynn, 1913). Again, the infant referred to before, who died from a *Streptococcus fæcalis* infection, was acutely ill for only 7 hours. The short duration of septicæmia in a woman seems especially remarkable, as the in vitro test showed that the streptococcus was not really hæmolytic like *S. pyogenes*. The animal tests, however, proved that the streptococcus was very pathogenic for a non-hæmolytic one, as these organisms do not usually kill mice by the technique we employed (Glynn and Digby, p. 55). The presence of diplococci in the decidua indicates that the streptococcus entered the blood stream through the uterus. This may have occurred before midday, when the pituitary extract was given. The abdominal pain and rigor shortly after its administration suggest that the uterus contracted as a result of the drug and gave the patient a severe auto-inoculation.

Death Early in the Puerperium due to Delayed Chloroform Poisoning.

CASE 2.—E. H. V., aged 29, a primigravida, commenced labour at full term on the afternoon of March 9th, 1924. She was still undelivered on the 12th. The os was three-quarters dilated, a hand presented with the head but the membranes were intact. The patient had chloroform "on and off" from 8 P.M. to midnight during an attempt at version, which failed. The chloroform was administered by a special mask, the total amount used being 12 drachms, no more than 3 drachms being given during any hour. The patient's reflexes were never abolished, and she quickly came to when the anæsthetic was stopped. At 11 P.M. her temperature was 103° F., and on the advice of Dr. Leith Murray she was removed to the Liverpool Maternity Hospital at 1.30 A.M. on the 13th. On arrival she was conscious, her temperature was 98°, and pulse 100. At 5.30 P.M. her pulse and temperature were rising and the fœtal heart was not heard; perforation was therefore performed by J. St. G. W. and the fœtus extracted. During this operation, which lasted half an hour, ether was given by the open method with the addition of a few drops of chloroform. On the 14th the patient's temperature was 97°, and the pulse-rate varied from 120–112. The pulse was weak and small. She vomited frequently during the day, most of the vomit being "coffee-ground." There was no jaundice. She was given rectal salines with glucose. On the 15th the previous 24 hours' urine was 2 oz. only, and she had passed none during the night. The patient was getting drowsy and was still vomiting "coffee grounds." The temperature was 97·4°, and the pulse was 106, weak and small. An intravenous injection of 15 oz. of 2 per cent. solution of sod. bicarbonate was given. The patient died at 1.35 P.M. on March 15th, 65½ hours after the first administration of chloroform.

The *post-mortem examination* was made by Dr. Riding. The uterus contained 1 oz. of sanious fluid, the endometrium was red and shiny, and hæmorrhagic areas were present in the uterine wall. The vagina was extensively lacerated and gangrenous in places. The right ovarian vein contained a thrombus, extending up to the vena cava. The liver was normal in size and firm, but rather pale; it showed a difference in colour between the centre and the periphery of the lobules. The spleen was enlarged and diffluent.

Histological Examination.—The pathological changes in the liver were very definite. There was extensive necrosis of the inner two-thirds of the hepatic lobule and extensive fatty "degeneration" of the outer third. The fat was most abundant at the margins of the necrotic areas; it was deposited in small droplets; the more or less degenerated cell nucleus was central, when present. The bile-ducts were normal. There was no round-celled infiltration and no fibrosis. A small amount of blood-pigment was seen in the leucocytes lying in some of the blood-vessels, but there was no bile-pigment, leucin, nor tyrosin. Neither fibrin nor bacteria could be demonstrated by specific stains. The kidney showed a moderate amount of cloudy swelling and very extensive fatty "degeneration" of most of the secreting tubules.

Comments.—The clinical history and pathological changes prove that the patient died from delayed chloroform poisoning; though jaundice was absent, it does not always occur. The toxic effect of the chloroform may have been accentuated by the septic condition of the vagina. Death was not due to eclampsia because there were no convulsions. Besides, the changes in the liver were unlike those met with in this condition, for there was no *peripheral* necrosis, no hæmorrhage, and no fibrinous thrombi, while the fatty "degeneration" was too extensive.

We are indebted to Prof. Bell and to Dr. Murray for permission to report these two cases.

References.—Glynn, E. E., and Dun, R. C.: THE LANCET, 1923, i., 1302. Glynn: Quart. Jour. Med., 1913, vi., 391. Glynn and Digby, Lettice: Med. Res. Council Report, Spec. Ser., 1923, No. 79.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

GENERAL MEETING OF FELLOWS.

AT a meeting of this Society held on Feb. 15th, Sir STCLAIR THOMSON, the President, occupying the chair, a discussion on

FOCAL SEPSIS AS A FACTOR IN DISEASE

was opened by Prof. G. R. MURRAY (Manchester), who read the paper which appears in full in another column.

Mr. HERBERT TILLEY followed from the standpoint of the nose, throat, and ear. He said that sepsis in those regions had so many and far-reaching possibilities that it had been necessary for him to exclude its acute manifestations, as well as those resulting from direct spread of infection in the immediate neighbourhood of the primary focus. The path of organisms or their toxins to their destination might be either direct or indirect. Infective elements might be inhaled directly into the lower air passages and cause lesions in larynx, trachea, bronchi, lungs; or, when swallowed, might set up morbid conditions in the gastro-intestinal tract. Indirectly, they might travel by the blood stream or lymphatics and produce disease in any distant organ. With regard to the faucial tonsils and the other constituents of Waldeyer's ring, he said he understood by a septic tonsil one which was subject to attacks of inflammation, associated with some enlargement of its corresponding cervical gland behind the angle of the jaw. The size of the tonsils was of little clinical significance unless, in children, there were symptoms of obstruction. Systemic symptoms were particularly liable to ensue from small, fibrous, septic, buried tonsils, which were frequently hidden behind purple-red faucial pillars. The mere presence of bacteria in crypts was no evidence of disease. Dr. G. B. Wood, of Philadelphia, pointed out the importance of realising the possibility of soluble toxins being absorbed from the tonsil directly into the blood stream. As an instance of mild toxæmia resulting from throat disease, he quoted the case of a lady who had occasional sore-throats and slight feverish attacks. She easily tired, and was not refreshed by extra sleep. She was anæmic, the tonsils were septic, and the jaw glands were enlarged and tender. The tonsils were enucleated, and she wrote later that she never knew what it was to feel really well until the tonsils had been removed. F. J. Poynton, studying rheumatic infection in childhood, analysed 1108 cases of primary attacks of acute rheumatism in children, and said that most of them developed along the lines of sore-throat, arthritis, and morbus cordis. Poynton considered the tonsils an important site of infection. Mr. Tilley recorded a case of chronic tachycardia in a boy from whom, after a week's rest in bed, the tonsils were removed; within ten days the pulse-rate became normal and had remained so three years. He knew many cases in which early types of arthritis, fibrositis, and myositis were cured by complete removal of septic tonsils. The influence of such infective foci in causing bronchial catarrh and bronchitis was most seen in children. In later years tonsillar disease seemed to cause anaphylaxis, as shown in vasomotor rhinitis,

asthma, and urticaria. With regard to gastro-intestinal lesions, these, he thought, were more frequent following dental or nasal sinus sepsis than after tonsillar infection, owing to the larger quantities of pus swallowed from the former. The relatively smaller amount of material from the tonsil could possibly be dealt with by the gastric juice and healthy stomach. Subinfection of the kidney also occurred from nasal, faucial, and dental sepsis.

Mr. Tilley said his remarks applied equally to the accessory sinuses. The symptoms in young children were identical with those due to septic tonsils. When these sinuses were at fault the child had an obscure evening pyrexia, "growing pains," polyarthritis, bronchial and asthmatic symptoms; indeed, the clinical picture might mimic that of tuberculosis. S. T. Darling, of America, considered that lobar pneumonia was often a direct subinfection from accessory sinuses. And there was evidently a close association between bronchiectasis and brain abscess. Mr. Tilley had seen chronic myocardial lesions quickly relieved by treating the nasal sinuses. The nervous system was peculiarly liable to suffer from the effects of chronic toxæmia; especially were headache, migraine, and neuralgia likely to occur; also sciatica and peripheral neuritis; while retrobulbar neuritis in this connexion had already been discussed by the Society. In conclusion, he advocated the early removal of septic foci as the quickest means of cure, and asked that there should be a closer coöperation of all special workers in the domain of medicine. The aural aspect of the subject he dismissed by pointing out how frequently the general health was benefited by curing chronic suppurative otorrhœa.

Mr. F. W. BRODERICK (Bournemouth) dealt with the subject from the point of view of dental sepsis, pointing out the frequent association of arthritis, lessened sugar tolerance, and a depression of the autonomic nervous system. He said the presence of a granuloma at the root apex was a proof that Nature was setting up a good reaction in the body to the focal infection. A view now largely held was that dental conditions were an indication of a general systemic upset. The predisposing cause of caries was an alteration in the acid base equilibrium of the blood towards the acid side. Removal of septic teeth was often disappointing in results, and pyorrhœa seemed to be the result of an attempt to compensate alkalosis. He stressed the importance of the retention of some natural teeth by patients where this was possible, for adequate nourishment meant so much.

Dr. F. G. THOMSON (Bath) spoke of the influence of focal infection in the causation of arthritis. The term "rheumatoid arthritis" ought to be deleted from the nomenclature of the disease, "focal arthritis" being substituted. He insisted on the similarity of mechanism between ordinary arthritis and gonorrhœal arthritis. In 75 per cent. of the former gross infective conditions of teeth or tonsils could be demonstrated, and in many of the remainder there was an infection of the intestinal or the urinary tract. When one saw a case of multiple arthritis with a local infection, it was remarkable how the joint symptoms disappeared simply as a result of treating the focus. It was doubtful whether arthritis was due to the organisms themselves or even their toxins. As only a small proportion of cases having infection of teeth, tonsils, or urinary tract developed multiple arthritis, there must be some factor required for the latter to develop other than the sepsis, but whether this was associated with want of endocrine balance or other biochemical anomalies was matter for conjecture. But most cases of multiple arthritis showed an absence or great diminution of hydrochloric acid in the gastric juice, and this permitted secondary intestinal infection. With regard to the other group of chronic arthritis —namely, osteo-arthritis—here focal infection seemed to have no part; it was a degenerative condition associated with arterio-sclerosis and malnutrition of the joint, the determining factor being injury or strain.

Dr. F. C. GRAVES (Rubery Hill Asylum, Birmingham) dealt with the subject of sepsis as a factor in the causation of mental disorder. He had noted that in mental patients removal of purulent and septic foci was followed by greater stability in the circulatory and mental states. His contribution consisted of the exhibition of a series of lantern slides showing the actual dental and other foci, and the relation of the symptoms, with photographs of the patients before and after the treatment. Usually surgical removal of the focus was followed by an exacerbation reaction, this giving place later to definite improvement.

Mr. G. A. PEAKE also spoke from the dental standpoint, and referred to ocular complications of focal disease. He had seen especially good results from treatment of these foci in stomach disorders. He deprecated wholesale extraction of teeth on the slightest sign of dental trouble, especially as the patient was thereby deprived of a good means, by mastication, of keeping up the resistance of the body. At present, he considered the massacre of the teeth out-Heroded Herod.

Dr. E. STOLKIND agreed as to the close relation between dental defects and general disease, and said the too frequent advice of the doctor was to have all the teeth extracted. He quoted a number of his own cases to show that this advice was often founded on very slender causes. In a general way, he considered that the relationship between dental and general disease was much exaggerated, and that mere gingivitis, which would lend itself to special treatment, was made the excuse for rendering the patient edentulous. In cases in which the teeth were at fault and it was thought they should be removed, this should only be carried out after there had been a consultation between specialists.

Dr. P. HAMILL said there was a tendency, in all discussions of this nature, to concentrate too much on one particular region of the body. He thought cases could be divided into two main groups—those in which one was satisfied that focal infection was the cause of the patient's condition; and, secondly, those in which there was what might be regarded as a flank attack, which had the effect of diminishing the general health of the patient, and so allowing some unimportant condition of which he was the subject to become unduly prominent. In cardiovascular disorders he thought it would be agreed that infected tonsils were a very important factor; they at least were answerable for a continuance of the trouble. He instanced the delicate type of boy with a somewhat dilated heart, who showed a liability to faint, and had a raised pulse-rate and small rises of temperature. Yet his circulatory system was sound, as on most days he was able to join in school games. Frequently in such boys one could find a septic focus, removal of which mostly produced a dramatic effect. One case of grave myocardial disorder with auricular fibrillation which he quoted was proved later to have cholecystitis; after gall-stones had been removed his other symptoms became fewer and fewer, and he was being cured rapidly. A case of paroxysmal tachycardia he found to be associated with septic and defective crowns and bridges. He also spoke of the association of tonsillar disease with appendicitis, also of the latter with pus in the antra. He fully agreed with those who condemned the wholesale extraction of teeth; he regarded this measure as a mutilation; each separate tooth should be tried and weighed in the balance before being sacrificed. Many had seen infective processes exacerbating cases of exophthalmic goitre. And was it not possible that a long-continued sepsis exhausted the sympathetic thyroid side of one's economy? His own impression tended to that belief. In one of the cases of which a photograph was shown by Dr. Graves, the thyroid enlargement did diminish after the focal sepsis had been cleared away. It was common knowledge that an infective process embarrassed the carbohydrate metabolism and diminished the resistance of the patient.

The PRESIDENT said that as most medical men had now been coverted to a belief in the importance of focal sepsis, he would confine his brief reference to exhibiting four temperature charts of cases. The first was that of a case of pan-sinusitis. This gentleman was seized with an acute cold in the head and was in bed three weeks. There was suppuration in all his sinuses. The antrum was washed out, and a streptococcal infection was found there. The pain was so intense that his relatives thought he had meningitis. He got well of the sinusitis. Another was the chart of a hospital nurse who had an acute left-sided multisinusitis, and from her a pure culture of the influenza bacillus was obtained. She had only medicinal treatment, rest, and warmth, and made a complete recovery. Another chart was that of another nurse, and her trouble also followed influenza, and the organism found in her sinus was the pneumococcus in pure culture. She also got well. The third was that of a girl of 17, who developed acute double sphenoidal sinusitis. She developed secondary abscesses in the neck. The sinuses were opened and drained and they each yielded streptococci. She had also thrombosis of the cavernous sinus, and death took place from meningitis. At the post-mortem examination, pus was found in the anterior fossa and in the orbit.

SECTION OF NEUROLOGY.

AT a meeting of this Section, held on Feb. 11th, the chair being occupied by Dr. H. CAMPBELL THOMSON, the President, a discussion on the

Sympathetic Innervation of Striated Muscle

and its bearing on the treatment of spastic paralysis was opened by Dr. F. A. ADRIAN, who expressed the regret of neurologists that Dr. Hunter, of Sydney, was cut off in the midst of his valuable researches. Though Hunter and Royle were not present to support their contentions, these latter must be subjected to the unsentimental scrutiny and criticism demanded by science. Hunter's theory seemed never to have crystallised completely, and the speaker felt that that worker would himself have modified it if he had lived. The main attention must be given not to theory but to matters of fact—i.e., the issues of experiments done. Hunter and Royle put new life into the theory of the sympathetic control of tonic contraction; they also described an operation based on that theory for which they claimed benefit in spastic conditions and certain forms of paralysis. The speaker said he did not think it could be held that the theory and the results of that operation necessarily stood or fell together.

Dr. Adrian proceeded to pass in review the physiological work which had been published on the sympathetic system and tonic contraction. Tone was a very difficult subject to investigate. It was now generally believed that accessory non-medullated fibres existed in striped muscle, and that these supplied muscle-fibres which were also innervated by medullated nerve-fibres, and that they did not degenerate when the anterior roots were cut. These accessory fibres were innervated from the sympathetic ganglia. Several points were still doubtful; for instance, whether these fibres existed in every muscle or only in some; also whether they supplied a special part of the muscle-fibre which was not innervated by the medullated nerves. He entered into the pros and cons of these doubts. Hunter and Royle believed that sympathetic fibres innervated separate muscle-fibres—namely, those of the red variety which contained sarcoplasm, and that those fibres were not supplied by the cerebro-spinal system. But all the evidence at present seemed to be against that view. Garvin had carefully investigated the muscles of the hedgehog—a peculiarly suitable animal—and had found no clear separation into two distinct kinds of fibre. What he found was a kind of infinite gradation from muscle-fibre rich in sarcoplasm to fibre which was poor in that substance. Still, it was possible that some fibre might react separately to two sets of nerves; one set might contract in one way, another set might contract in another.

As soon as the existence of these accessory non-medullated nerve-fibres had been demonstrated, attempts were made to discover their function. It seemed most likely that they were associated with the tonic form of contraction. There were two distinct ways in which a muscle might behave; it might perform a series of rapid phasic movements, or it might hold a limb in a definite posture by maintaining a steady contraction. In the first of these forms a good deal of energy was used and the gaseous exchange was considerable, while fatigue occurred rapidly. There was also a fairly large electrical response. In the tonic contraction there seemed to be very little fatigue, there was a small energy exchange and a low metabolism, and a small electrical response. In some bivalves the distinction between these two kinds was very real and marked, and the two different kinds of contraction were carried out by separate muscle-fibres. In some animals destruction of the sympathetic on one side produced a decreased tone on that side, but in some cases it was impossible to know which side had been operated upon; tonic contraction seemed to go on in spite of the complete absence of impulses coming down from the sympathetic. Langeland considered that increase in spasticity did not mean the same thing as increase in tone as ordinarily understood. It did not mean that muscle developed a greater resistance to change in its length, but that it was pulled out more rapidly by a given weight. This was a very different conception from that afterwards introduced by Hunter and Royle. The classical experiment to demonstrate decerebrate rigidity had failed; it failed to show a sympathetic influence on tonic contraction. It seemed that the loss of the sympathetic did not produce that loss of nervous impulse which was the immediate cause of the change in length of the muscle, but it produced some trophic factor without which the muscle could not carry out tonic reactions so easily. It was not likely to be a direct effect on the muscle-fibre, comparable to the effect of the medullated nerves in causing contraction.

But it was chiefly the facts which were in dispute; there was considerable doubt even about the delayed sympathetic effect. Meek and Crawford, in America, carried out the operation of destruction of the sympathetic in dogs, and decerebrated them from 33 to 77 days after the operation; and they found no significant difference of any kind on the two sides, though they used very careful methods of investigation. Hunter's experiments on birds were more difficult to evaluate. The speaker said that on the experimental side the balance of evidence seemed to be against the view that the sympathetic sent out nervous impulses which had a direct controlling effect on the posture, length, or plastic tone of the limb muscles—i.e., an effect comparable to that of the cerebro-spinal impulses. But Hunter and Royle deserved the highest praise for having devised the operation of sympathetic ramisectomy for cases of spastic paralysis with excessive plastic tone. Some found this operation to be of great value, others failed with it. It was, however, only claimed to benefit those cases in which an increased plastic tone was the dominant feature. If the operation was successful it would not imply that the sympathetic exercised a direct control over the changes in the length of the muscle.

The Investigators' Work Reviewed.

Dr. J. BEATTIE read the communication which was contributed for the meeting by Prof. G. ELLIOT SMITH. It consisted of a general review of the work of Hunter and Royle and other investigators on this subject, and was illustrated by a number of slides, some of them from the cinematograph film in the possession of Prof. Smith. Hunter had found that in goats there were two mechanisms in the hind brain controlling tone in the limbs, and that both these centres had to be cut off from their spinal cord connexions before complete relaxation of the limbs could be secured. Hunter also showed that the maintenance

of tone in the limbs was not entirely dependent on Deiter's nucleus; that it resided in two centres, and only disappeared when both had been cut off from the spinal cord. He reminded the meeting of two important declarations of Sherrington—that the tone of skeletal muscle was a postural proprioceptive reflex, and secondly, that section of the sympathetic nerves did not render a group of muscles much more liable to fatigue than normal muscle. Muscle which was fatigued as a result of denervation became definitely toneless.

Prof. EDWIN BRAMWELL (Edinburgh) said the meeting had discussed the effect of division of nerves in animals on spastic conditions, but was it not possible to regard the matter from another standpoint? Were there any conditions affecting muscle in which phenomena were present which could not be accounted for by disease of the muscle itself? In this connexion he referred to the muscular dystrophies. It had been suggested that these probably had a neuropathic basis; but how were they to be explained? Was it possible they might be due to disease affecting the sympathetic? Histology only could supply the proof. Still, there were some facts of interest, notably the histological appearance of muscle in muscular dystrophies and the vasomotor changes met with in some of these cases, as evidenced by marbling of the skin, which could not be explained by a pure muscle condition. Could not the sympathetic be responsible?

Mr. A. S. BLUNDELL BANKART said his operative experiments in this relation had yielded chiefly negative results. He felt grateful to Hunter and Royle for having demonstrated the feasibility of cutting off the sympathetic supply to a limb by excising the sympathetic, and he had done that ten times in seven patients. The first case in which he attempted it—a very old-standing spastic paraplegia—was a technical failure, though the patient was eventually none the worse. The operations in the other cases were demonstration operations; he was sure the correct rami communicantes were destroyed. The only cervical operation he did was on a woman aged 34, who had, as a sequel of encephalitis lethargica, generalised rigidity, with great increase of muscular tone in all the limbs, though chiefly in the upper ones, and on the right side more than on the left. Following the operation there was a transient diminution of the spasm and some swelling of the limbs due to increased vascularity. But this passed off and a week or two after the operation the woman was no better. An illustrative example of the lumbar cases was that of a girl aged 13, a typical cerebral diplegia, with marked spasticity and contracture of all the limbs. He operated first on one side then on the other, and there was a dilatation of the whole limb after the operation. Also, it was agreed that there was a diminution of muscular tone, and the limbs were moved somewhat more freely. The speaker, however, could not persuade himself that the operation had been of any definite benefit to her. None of the results in the other cases could be regarded as hopeful, therefore he did not propose to do the operation any more until he saw some strong additional reason.

Dr. F. M. R. WALSHE made a few remarks in justification of the position he had taken up on this subject, and which had been commented on in one of the contributions. He said that in Hunter's experiments on sea-gulls, in which he produced an effect on the wing by cutting the posterior roots, he must have cut, in order to get that result, something else besides the posterior roots; the anterior roots must have been damaged too. He contended that there was no evidence that muscle tone could be divided into component parts, and if he was right in that contention, the theoretical aspect fell to the ground.

Mr. G. JEFFERSON (Manchester) said that his trial of the operation suggested by Hunter and Royle had been confined to the human subject. He observed the wave of ramisectomy spreading to this country when he was in the United States in 1924, and an Australian arrived at Cushing's clinic in the States when the speaker was there with much enthusiasm for the operation and statements of great benefit having accrued in the matter of loosening of limbs. He himself saw a surgeon operate on an arm, removing part of the cervical sympathetic, but with very slight immediate result, to everyone's disappointment. It had been said by some that technique or judgment had been at fault. Therefore the speaker, on reaching this country, sought opportunities of sympathectomising patients, and he had done it on six—five on the upper limb, one on the lumbar sympathetic. From the therapeutic standpoint of view his results coincided with Mr. Bankart's. All were hemiplegias, and all except one of the patients were under 20 years of age. Not one of those patients had received any benefit whatever from the operation. Some admitted that for a time the limb felt warmer, but one could not detect any difference in any respect. His conclusion was that the operation on the human being was not worth while.

Dr. ADRIAN and Dr. BEATTIE briefly replied.

SECTION OF PSYCHIATRY.

Exhibition of Specimens and Laboratory Methods.

A MEETING of this Section was held at the Maudsley Hospital, Denmark Hill, on Feb. 10th, Dr. R. H. COLE, the President, being in the chair, when various exhibits of pathological specimens were demonstrated and also laboratory methods used in the investigation of mental disease. Discussions took place upon the material shown.

Dr. C. LOVELL showed a series of brains from cases of anxiety psychosis and encephalitis, also slides and microphotographs of the brain and pancreas; in each of these cases the pancreas had been found to show inflammatory changes. His work on surface tension of the blood in such cases and the pathological findings had led him to think it probable that disordered pancreatic function was the underlying and predisposing cause rendering the organism susceptible to cerebral vascular disease or infection, just as diabetes mellitus predisposes the organism to staphylococcal infection. Treatment by a low carbohydrate diet and secretogen had proved of benefit in some cases, and had altered the abnormal surface tension.—In the course of the discussion, in which Colonel G. LORD, Dr. GRAHAM FORBES, Dr. A. PETRIE, and the PRESIDENT also took part, Dr. P. CLOAKE suggested that the pancreatic and other endocrine changes might be the result of disease of the sympathetic centres in the grey matter of the third ventricle.

Dr. F. GOLLA, with the collaboration of various workers, showed specimens of cerebral tumours in cases where there had been no signs of organic disease until shortly before death, and the PRESIDENT quoted a similar case recently seen at St. Mary's Hospital.—Colonel LORD and Dr. NICHOLLS showed a case of porencephaly which had apparently resulted from some disease at the age of 2 years, and Dr. CLOAKE commented on the cases as supporting the view that this condition is acquired and not a failure of development.—Slides from a case of the Lorain type of infantilism were shown by Dr. EFFIE BRANDER, in which the anterior lobe of the pituitary alone was affected, while other endocrine glands showed marked changes.

Captain MANN and Dr. ROBERTSON gave a demonstration of the use of various methods for determining basal metabolism, including those of Krogh and Haldane, and a modification of Benedict's apparatus giving graphic readings. The van Slyke microapparatus for estimating the basal alkalinity of the blood, and a new model for analysis of alveolar air were also shown. Colorimetric methods for the estimation of hydrogen-ion concentration of blood and urine were explained, and their use in demonstrating the normal alkaline tide after meals and its absence in certain psychotic patients.—Dr. SHEPHERD showed the Pachon recording apparatus designed

for estimating the blood flow in the hand and its variations under emotion and the administration of drugs. — Dr. GOLLA showed an apparatus for accurate recording of the knee-jerk and the state of muscle tone. — Dr. LANDIS showed the electro-cardiograph, and tracings taken from normal and psychotic patients before and after such stimuli as a sudden noise. He also demonstrated the use of an apparatus for the exact continuous recording of blood pressure and its variations under stimuli of different kinds.

EDINBURGH OBSTETRICAL SOCIETY.

AT a meeting of this Society held on Jan. 13th Dr. R. W. JOHNSTONE, the President, took the chair, and Prof. J. A. KYNOCH (Dundee) read a paper on

Three Cases of Cæsarean Section,

in which the operation had been required on account of some unusual occurrence.

The first was a 8-para, suffering from severe internal accidental hæmorrhage, who was in a collapsed condition before operation was performed. Cæsarean section was done as quickly as possible, and on opening the abdomen the uterus was found to be congested and hæmorrhagic, with here and there purple mottled patches. There was concealed hæmorrhage in the left broad ligament, and the left Fallopian tube presented the same hæmorrhagic appearance. The child was delivered and the uterus was stimulated to contract by means of pituitrin and by hot towels. This was carried out for at least 10 minutes before the contractions became satisfactory, after which the uterus and abdomen were closed. Although in a very weak state after the operation the patient made an uninterrupted recovery and left the hospital in three weeks.

The second case was one of prolapse of the cord in a 2-para whose first confinement had been difficult on account of a slightly contracted pelvis and had resulted in the birth of a child which did not survive. On her admission for the second confinement the cervix was slightly dilated and the cord was found to be prolapsed, but there was still pulsation and the fœtal heart sounds were satisfactory. On account of the contraction of the pelvis Cæsarean section was decided upon and a living child was delivered.

The third case was one of funnel-shaped pelvis, which Prof. Kynoch deemed to be more common even in this country than was generally supposed. The head had remained on the pelvic floor and had been making no progress for four hours; on examination the subpubic angle was found to be so acute that barely two fingers could be admitted. The diameters of the outlet were: inter-tuber-ischial, 3¾ in.; posterior sagittal, 3 in. On account of these measurements and the acuteness of the subpubic angle, spontaneous or instrumental delivery was impossible, and it was therefore a question whether pubiotomy or Cæsarean section should be the treatment. As the patient was a primipara, Cæsarean section was decided upon, and a 7 lb. child was delivered. Both mother and child made a satisfactory recovery.

Prof. Kynoch pointed out that the first of the three cases made it clear that, sometimes at any rate, a uterus with severe internal accidental hæmorrhage could be stimulated to contraction by the use of hot towels and pituitrin, and hysterectomy could be avoided.

Operation for Rectocele.

Prof. B. P. WATSON read a preliminary communication on his technique for the cure of rectocele. The essential feature in his operation, he said, was the isolation of the special fascio-muscular sheet which supports the rectum and which is deficient in all cases of rectocele. The condition does not occur, even when the levatores ani muscles and their fascia are badly damaged, as long as this rectal fascia remains intact. The fascia lies deep to the levator ani muscle in close relation to, and supporting, the anterior rectal wall. It is in intimate relation with the posterior vaginal wall in its middle third, and becomes continuous at the sides of the cervix with the pubo-cervical layer of fascia—the essential support of the bladder. The operative treatment recommended for rectocele consists in defining and freeing this fascia and then repairing it after replacing the herniated rectum. Prof. Watson described the operation in detail. The essential points were as follows. A flap of the posterior vaginal wall is raised by inserting closed scissors midway between the middle line and the limit of the muco-cutaneous perineal incision on either side. The scissors are passed beneath the postero-lateral vaginal wall, well to the side of the rectum, and are opened out. In this way the natural line of cleavage is easily found. Dissection is then carried out towards the middle line where scar tissue obliterates any definite layers. This scar tissue is easily dissected off the rectum from the sides and the dissection is carried to the upper limit of the rectocele. As this is done two bands of tissue appear, which are firmly attached to the under surface of the vaginal flap. Between them, in the middle line, there bulges the rectal wall. These bands are the edges of the torn rectal fascia and when the dissection is carried out to the upper limit of the rectocele they are found to unite in the middle line. This fascia is freed and then united over the rectum by continuous suture. By this means the rectocele is cured. The perineum is built up in the usual way. The chief point in the operation, said Prof. Watson, was the separation of this rectal fascia from the under surface of the levatores ani. This was done by blunt scissor dissection, and thus the fascia could be sutured separately and not along with the muscle as was usually done. By this means there was no tension and better healing and more accurate apposition was ensured. The operation was more correct anatomically than the usual procedures in cases of rectocele and had given excellent results, no recurrences of a rectocele having ever been reported after its performance.

Post-partum Convulsions.

Dr. E. CHALMERS FAHMY described a case of post-partum convulsions which had presented difficulty in diagnosis.

The case was one of a 1-para, who was admitted in labour to the Royal Maternity Hospital, Edinburgh. The first labour had been uneventful, and throughout the second pregnancy she had been well except for slight œdema of the feet and legs. On admission the blood pressure was normal and there was only a slight trace of albumin in the urine. She was delivered spontaneously, and the placenta and membranes came away complete. Twelve hours after delivery she complained of headache and difficulty of vision. Morphia was given at once, but a fit developed. The usual treatment for eclampsia was then administered, but a second fit occurred one and a half hours later. There was albumin (1·4 per cent.) in the urine, but the blood pressure was only 140/98 mm. Hg. The patient became drowsy on recovering from the fits, and this drowsy condition lasted for seven days. The blood pressure for these days was never above 130 mm., and the albumin decreased by degrees. On the seventh day after delivery fits recurred, and within 12 hours she had 11 fits. Lumbar puncture was done, and some clear fluid under increased tension was withdrawn. No micro-organisms were found in the fluid. There was now only a slight trace of albumin in the urine. The patient again became drowsy, but consciousness returned in a few days and she became perfectly well, being discharged from hospital after a further three weeks. At a subsequent pregnancy a healthy child was delivered without any signs or symptoms of toxæmia, and during this pregnancy there was no albumin in the urine.

Diagnosis, said Dr. Fahmy, was very difficult. In his opinion the fits were due in the first place to eclampsia; this was followed by drowsiness, culminating in fresh convulsions due probably to the brain being affected by the toxæmia. Possible diagnoses of hysteria, epilepsy, and a lesion of the brain were ruled out, but it was difficult to exclude nephritic toxæmia definitely. The patient's subsequent pregnancy, in which there was no albuminuria, made the diagnosis of nephritis unlikely.

Corrigendum.—Mr. E. B. Fuller, who took part in the discussion on pyelography at the Section of Urology of the Royal Society of Medicine on Jan. 28th (THE LANCET, Feb. 6th, p. 289), is lecturer in clinical surgery at the University of Cape Town.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on Jan. 21st, when Mr. H. BELL TAWSE, the President, took the chair, and Sir WILLIAM MILLIGAN (Manchester) delivered an address on

Radiodiathermy for Inoperable Malignant Disease of the Upper Air and Food Passages.

After demonstrating the action of diathermy by lantern slides showing the effect on a piece of pork of the various discs and buttons used in practice, he enunciated the following principles of treatment: (1) The indifferent electrode must be wrapped in numerous folds of lint soaked in salt solution. (2) The diathermy point—the active electrode—must be in contact with the tissues before the current is turned on. (3) The current must be very slowly increased. (4) When "sparking" occurs, the current must be switched off. (5) The button should not be removed till the current ceases. (6) No single sitting should exceed 20 minutes, as up to this limit there is practically no shock.

The most favourable cases for diathermy, he said, were those in which malignant disease affected the nasopharynx, palate, tonsil, and oropharynx. Where there was secondary involvement of glands block dissection should precede diathermy and the lymphatic area should be irradiated with radon needles or applicators, or both. There were cases in which the growth disappeared and the patient remained free from recurrence for periods varying from one to seven years. When it was found that glands were inoperable, the destruction of foul, painful ulcers gave immense relief to the patient. In all cases preliminary ligature of the main blood-vessel to the area was desirable so as to lessen the risk of secondary hæmorrhage, which was liable to occur about ten days after operation, when sloughs were separating. For removal of the tongue the diathermy knife was superior to the scalpel. The results of treating inoperable growths in the hypopharynx and larynx had proved rather disappointing, whether diathermy was preceded by or followed by radium, and amongst possible complications were œdema of the glottis, inability to swallow, necrosis of cartilage, and stricture. Preliminary tracheotomy became essential and preliminary gastrostomy might become so. The Brussels school employed diathermy in operable intrinsic cancer of the larynx through a window in the thyroid cartilage. In closing his address Sir William Milligan expressed the hope that general surgeons would more often prefer the diathermy knife to the scalpel in both operable and inoperable malignant disease.

The PRESIDENT said that operation frequently revealed extensions which placed the cases in the inoperable category. Although both radium and diathermy seemed in rare cases to stimulate the growth of malignant disease, the excellent results were sufficiently numerous to overshadow them.

A number of members took part in the discussion.

A CONFERENCE ON MILK.—The "Grade A (Tuberculin Tested)" Milk Producers' Association is arranging a conference at University College, Reading, on March 23rd and 24th. A similar conference was successfully held by the Association in 1924. Subjects to be discussed will be the present position of Certified and Grade A (Tuberculin Tested) Milk in Scotland; the steps taken by the Ministry of Agriculture to promote the production of graded milks; the cost of producing Grade A (Tuberculin Tested) Milk; the value of the tuberculin test to the dairy farmer; the growth of grade milk production; and the control of tuberculin tested milk from its source to the consumer. Visits will be paid to graded milk producers' farms, to distributors in the district, to the College Farm and the National Institute for Research in Dairying. Hostel accommodation at moderate rates will be provided at St. Patrick's Hall, University College. Information may be had from Lieut.-Colonel C. Maddock, C.I.E., M.D., Foxglade House, Shinfield, Reading.

Reviews and Notices of Books.

EDUCATIONAL PSYCHOLOGY: ITS PROBLEMS AND METHODS.

By CHARLES FOX, M.A., Christ's College, Cambridge, Director of the Training of Teachers and Lecturer in Educational Psychology in the University of Cambridge. London: Kegan Paul, Trench, Trübner and Co., Ltd. International Library of Psychology. 1925. Pp. 380. 10*s.* 6*d.*

THIS book is a worthy addition to a series of outstanding merit. Ostensibly it deals with the contributions made by experimental psychology during the last quarter century to educational problems, but the volume surveys a wider field and embodies a definite point of view. The author's attitude to one school of psychologists is epigrammatically summarised in his description of a well-known psychological text-book by a Behaviourist as an "excellent book on physiology." And he is a vigorous opponent of the idea that by analysing mental life into its elements we shall have explained it, being an adherent of the "Gestalt" school of psychology, which holds that "there is no such thing as a mental factor isolated from others, but all mental life has a structure, a pattern *ab initio*." Mental phenomena do not explain mental life any more than the notes explain a melody. Association will not account for the reduction to order of the chaos of disconnected movements, sensations, and ideas usually supposed to be the units of mental life.

With regard to mental images, he contests the widely held view that they only differ from sensations in respect of quantity and contends that there is a real difference in quality. He finds confirmation of this in Galton's account of the responses to his questionnaire on mental imagery; Galton was surprised that scientific and other thinkers had so feeble powers of visual representation, but the author interprets this as meaning that their introspections were more accurate than those of the less trained observers. Imagery plays but a small part in thinking; there is only a low correlation between vivid imagery and intelligence. Educationists will be interested in the author's conclusion that the particular type of imagery used in presenting a subject to the pupils makes little difference to the result, the learning process being much more dependent upon the mental make-up of the learner. Throughout the book he insists upon this personal element. Habit, for example, never results from mechanical repetition; there must be consciously directed effort on the part of the individual. With regard to memory, too, he insists that experimental evidence which fails to allow for the personal factor—the desire or will to remember—is valueless, and he produces strong evidence for his view. Similar fallacies attach to investigations on fatigue when psychological factors—the desire to do well or secure a reward, interest in the work, suggestion—are neglected. It is not so easy to accept his contention that a formed habit constitutes an impulse to action, an acquired impulse in contrast to the innate impulses which McDougall regards as the sole motives of action. His examples are not particularly happy. The effect of religion in moulding human nature is an instance of the action of a "sentiment" (in McDougall's sense) regulating inborn instincts rather than that of a habit. Religion can scarcely be called a habit, though it may produce habits.

There are interesting sections on heredity, showing a strong leaning towards the acceptance of the inheritance of acquired characters, and on mental tests. The chapter on fatigue is excellent; the essential point in the author's opinion is the diminution in the power of steady attention, the variability both in quantity and quality of the work done. The bibliography of literature on the subject is made more valuable by the author's notes, brief but pointed.

EARLY TUBERCULOSIS IN THE ADULT.

Die Klinik der beginnenden Tuberkulose Erwachsener. Vol. III. By Dr. WILHELM NEUMANN, Professor in the University of Vienna. Vienna: Julius Springer. 1925. With 72 illustrations. Pp. 176. 14*s.* 3*d.*

THIS volume is divided into two parts. The first deals with changes in the lungs of non-tuberculous origin, the symptoms of which may simulate early tuberculosis. A careful description of changes caused by tumours, primary and secondary, of the bronchi, lungs, pleura and mediastinum, and by syphilis is given from the clinical and radiographic points of view, fortified, in some cases, by post-mortem records. It may be questioned if much advantage is to be gained from the clinical charts, which are freely reproduced, since the signs employed are not always easy to understand when no key to their significance is provided. Dr. Neumann emphasises the importance of careful search for the tubercle bacillus, and adopts Lawrason Brown's dictum that if bacilli are not found after repeated examination, bronchiectasis, syphilis, influenza, tumour, and Hodgkin's disease should all be considered and excluded. The second part of the volume deals with certain symptoms similar to those caused by tuberculosis, but due to other diseases. The most valuable section is that dealing with hæmoptysis and its association with tumours, cardiac and hæmophilic conditions, and hæmosial-emesis, the expectoration of blood-stained morning fluid. Admirable, too, are the sections devoted to febrile and subfebrile conditions, to the influence of scoliosis in the production of atelectasis and deformities which give rise to changes in the percussion note, persistent crepitations and apparent wasting, and thus lead to wrong diagnoses. Although the lateral extension of Krönig's percussion area on the side of the scoliotic convexity is touched upon, nothing is said of the "compensatory" effect of greater fullness on the side of the convexity behind, flattening of the corresponding apex in front, and the reverse changes on the side of the concavity. Clinical records from the author's own experience are freely supplemented by the records of others. The care taken to enumerate and illustrate so many different conditions makes the book rather difficult to read, but it is likely to be valued by those whose daily work brings them into close association with the difficulties described. At the end of the book is given a subject and reference index to the three volumes of the series which have appeared.

If subsequent volumes reach the same standard this work should be a valuable addition to the literature of tuberculosis.

REMEDIES AGAINST THE PLAGUE.

The Earliest French Tracts Printed in the Fifteenth Century, Facsimiles, Notes, and List of all the Incunabula on Plague. Paris: A. C. Klebs and E. Droz. 1925. French edition, Fr.80; English edition, Fr.100.

THE literature of plague is enormous. The very titles of the works written about it fill more than 50 pages in the Index Catalogue. For hundreds of years the dread of it brooded over Europe, and the petition "from plague, pestilence, and famine, Good Lord deliver us" was put up daily in England as no empty form of words. This volume, the first of a series of scientific documents of the fifteenth century, is a dainty portfolio of pott quarto size, and contains in facsimile a Régime in French verse and two prose pamphlets on Remedies against the Plague. Madamoiselle E. Droz has herself edited the volume and acknowledges the help given by Dr. A. C. Klebs. She has performed the task with great judgment; she has not allowed herself to be beguiled into side issues, but has followed the straight path dealing solely with the tracts under her consideration. By this means she has recalled to memory Johannes Jacobi, of whom very little is known except that he was a physician at Montpellier, was appointed Chancellor of the University in 1364, treated the popes, and was left legacies by the Duke of Anjou and King Charles the Fifth. At the end of the facsimiles is a useful and seemingly complete bibliography of plague incunabula, the appearance of which would have rejoiced the heart of Sir William Osler. This work and that of Mrs. D. W. Singer on Plague Tractates, to which attention is drawn, are creditable attempts to introduce some kind of order into what has hitherto been chaos.

GYNECOLOGIC UROLOGY.

By LYNN LYLE FULKERSON, A.B., M.D., F.A.C.S., Assistant Professor of Gynecology, New York Post-Graduate Medical School; Surgeon, Cornell University Medical School Clinic. London: William Heinemann, 1925. Pp. 247. 27*s.* 6*d.*

IN this book, which is devoted to the diagnosis and treatment of urological diseases in women, the first chapter gives a useful little chart for the taking of histories, and the two succeeding ones deal with abnormalities of the urine and the anatomy of the female urinary tract. A section on instruments is full and well illustrated. In the series of chapters on diseases, while the usual scheme of classification is adhered to, the author emphasises throughout the clinical standpoint, giving very little pathology. This part of the book is uneven; there is a good account of ureteral stricture with references to Hunner's work, but the treatment of incontinence and enuresis is passed over too lightly, and the description of the technique of diathermy is too brief. For the chapter on pyelography a most excellent series of radiograms has been collected, some showing distortion of the renal pelvis due to malignant growths. The writer expresses his preference for 12 per cent. sodium iodide as a medium. The book concludes with a section on operative surgery, of which, perhaps, the most interesting part is the treatment of various forms of fistulæ and of relaxed vesical sphincter. The omission of any description of litholapaxy is curious. It is apparent that Kelly's endoscopes are more used in America than in this country, and a modification of this instrument, which can be used with either air or water distension, has been invented by the author.

On the whole this little volume will prove useful to those who have felt the want of a work devoted entirely to female urology. The diagrams, both plain and coloured, are excellent throughout, and a full bibliography is included.

MANUAL OF EMERGENCIES.

Medical, Surgical, and Obstetrical. Second edition. By J. SNOWMAN, M.D., M.R.C.P. London: John Bale, Sons and Danielsson, Ltd. 1926. Pp. 361. 10*s.*

THERE are not many good English text-books which deal solely with the common emergencies which threaten life, and Dr. Snowman's manual in its second edition is therefore welcome. First published in 1919, it was based largely upon the English edition of Lenzmann's "Emergencies in Medical Practice," and it has now been effectively revised. The additions include descriptions of the surgical treatment of angina pectoris, the insulin treatment of diabetes, botulism and its treatment by serum, and the treatment of auricular fibrillation by quinidine sulphate. The last-named section is, perhaps, too simplified; the dosage of quinidine is rather a complicated subject and cannot be safely dismissed with advice to give 3 gr. doses. Prof. Stroganoff's treatment for eclampsia is also included. With regard to one important subject—viz., that of cerebral hæmorrhage and thrombosis—the treatment described is not that of the most modern teaching. Purging and venesection for cases of cerebral hæmorrhage are now considered incorrect by some authorities on the grounds that cerebral hæmorrhage nearly always causes a fatal termination and such treatment is the worst possible for cerebral thrombosis which may be present despite high blood pressure and in which the prognosis is much better if correctly

treated. In describing the treatment of infantile diarrhœa no mention is made of the very valuable method of giving saline by the intra-peritoneal route. Apart from these points this new edition seems to be quite sound. The publishers announce that the size and bulk of the book have been reduced so as to enable it to be carried in the pocket. This seems a doubtful policy. It is unlikely that anyone will want to carry the book about always, and if it has to be looked for hurriedly on a bookshelf a larger size is at least no disadvantage.

THE BIRMINGHAM SCHOOL OF MEDICINE.

William Sands Cox and the Birmingham Medical School. By J. T. J. MORRISON. 1926. Pp. 240. 5*s*. *History of the Birmingham School of Medicine*, 1825–1925. Being a special number of the *Birmingham Medical Review*, December, 1925. Edited by K. D. WILKINSON, M.D. Birmingham: Cornish Brothers, Ltd. Pp. 96. 2*s*. 6*d*.

THESE two volumes are complementary. That for which Dr. Wilkinson is responsible is a general history of the Birmingham School, of its birth and begetting, its somewhat stormy infancy and adolescence, and finally of its growth to a vigorous manhood. Prof. Morrison's book deals with the life and work of the man, if any one man can be said to be the founder of the school, by whose energy and foresight the Birmingham Medical School came into existence. He deserves praise for having produced so full and readable an account in the short space of some five months, for it was only at the end of June, 1925, that he was commissioned by the Medical Committee of Queen's Hospital to undertake the task, and the book appeared in print by Dec. 1st.

The beginning of medical teaching in Birmingham was due to one Mr. John Tomlinson, surgeon to the town infirmary, who in the winter of 1767–1768 began a course of lectures in anatomy for the benefit of "the young gentlemen of the Faculty"—i.e., the apprentices of the medical men in the town. A few years previously the foundation of a General Hospital had been suggested and a committee of medical men and others was appointed to further the scheme. One of the rules proposed that each surgeon be allowed three pupils to attend the hospital for instruction. The hospital was intended to cost £3000 and to have something over 100 beds. Many difficulties were encountered; not until 14 years after the opening meeting of the committee was the hospital formally opened, and then only with 40 beds. The number of pupils admitted had been increased, for each physician and surgeon was allowed to have twelve pupils for instruction. For many years nothing further was done, until a young medical man, by name William Sands Cox, in partnership with his father, Edward Townsend Cox, conceived the idea of having a regular medical school in Birmingham, and commenced a course of "Anatomical Lectures with Physiological and Surgical Observations" at his house in Temple-row on Dec. 1st, 1825. The plan had the approbation of the leading medical men of the town, but still difficulties arose, and Cox was not a man who possessed the saving grace of suffering fools gladly. However, eventually he triumphed, and by 1843 the school received a charter from Queen Victoria, being named the Queen's College. Three years previously the foundation-stone of Queen's Hospital had been laid, this building being intended to serve as a clinical hospital for the school. Cox's chief ally, without whose generous coöperation the scheme might never have matured, was the Rev. Dr. Warneford, Rector of Bourton-on-the-Water, a man of great wealth, which he employed in many philanthropic works. His name is kept green by the Warneford Asylum near Oxford, though his benefactions to Birmingham are nowadays less well known. In 14 years he contributed no less than £27,000 to Cox's various schemes, though his strict theological views were the source of some inconvenience. He was anxious that the college should be conducted upon Church of England principles, and although he had confidence in the original staff, yet he feared that after their death "future Satanic subtlety" might have to be met, and that "to guard against the subtle designs of the Jesuits and the insidious intrusion of malignant dissenters, imperatively requires much deliberation." The further progress of the school until the blossoming into being of the University of Birmingham, and the details of the generosity of Sir Josiah Mason, must be sought for in the volumes before us.

There is one statement in both books which requires modification in our opinion. Dr. Wilkinson (p. 34) and Prof. Morrison (p. 71), in speaking of the perfectly just claim of Queen's Hospital to be the first provincial hospital established for the provision of clinical instruction, go on to point out that even in London the only two hospitals which had this "educational character impressed as the prime reason for their existence" (Morrison) were University College and King's College. This statement is historically incorrect. University College was founded in 1834, King's College in 1839, and Queen's Hospital, Birmingham, in 1840. But the right to be called the premier hospital in London definitely founded for educational purposes belongs to Charing Cross. In 1818–1820 provision was made by its founder, Dr. Benjamin Golding, for the education of a certain number of free pupils belonging to "respectable but unfortunate families," and in Dr. Golding's own words, "the want of a university as far as medical education is concerned will be fully supplied." Birmingham may well be proud of her University and of the small beginnings from which it grew.

MIDDLESEX HOSPITAL PAPERS.

Published Papers by Members of the Staff of the Middlesex Hospital Medical School, 1924–25.

THIS collection of 21 reprints represents various aspects of the work carried out at the Middlesex Hospital during the year 1924–25. Sir John Bland-Sutton's Lloyd Roberts lecture on Attic Salt for Gall-stones is a fine example of the mature observations of a well-stored mind. Important papers on Splanchnic Analgesia, by Mr. O. S. Hillman and Dr. R. Apperly; on Radiation Therapy, by Dr. J. H. D. Webster; and on Lupus in its Surgical Aspects, by Mr. W. Sampson Handley, are examples of the year's research work on the clinical side. Much work has been published from the various laboratories attached to the hospital. Prof. E. C. Dodds and Dr. F. Dickens contribute a paper on their simple method for the preparation of insulin by aqueous extraction. Dr. P. R. Peacock and Mr. B. D. Watters discuss certain aspects of ultra-violet rays, while Prof. S. Russ deals with the pathological basis of radiation. Reports on cases of interest, pathological observations, and certain physiological research work complete the volume.

CALORIMETRY IN MEDICINE.

Medicine Monographs. Vol. IV. By WILLIAM S. MCCANN, Associate Professor of Medicine; Associate Physician, Johns Hopkins Hospital. Baltimore: Williams and Wilkins Company; London: Baillière, Tindall and Cox. Pp. 98. 11*s*. 6*d*.

THIS book gives an excellent short account of calorimetry in medicine, dealing for the most part with the extensive work that has recently been carried out on basal metabolism in disease. The author is wise enough not to give space to the description of various kinds of apparatus, though he does discuss at some length, and with clear precision, the different normal standards of basal metabolism that have been adopted, and adds useful tables. He is thus able to devote the greater part of the book to an account of the effect of disease and drugs on basal metabolism. The effect of the ingestion of food on metabolism is also dealt with and the specific dynamic action of foodstuffs. Short sections on the mechanical efficiency of the body and of the total energy requirement in disease are included, while a good bibliography concludes the volume.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 20, 1926.

IRREGULAR MEDICAL PRACTICE.

AN American medical society, as may be seen from the letter of a correspondent last week (p. 363), has decided to admit laymen to its counsels as associated members. This is a most interesting decision. Where the educated public can join in the discussions of medical men and can recognise the reasons for the medical views, formulations of the public needs with practical suggestions for meeting them will be most welcome, and any such symposium should work well. It should lead to the support by a thinking section of the public of the cause of scientific medicine by demonstrating how far the educated physician and surgeon are usually aware of what the unqualified have to teach. Medical societies founded as such are not thrown open to the public frequently in this country because the discussions are generally too technical to afford an opening for those without professional training; but there is no reason why the principle of joint debating, so happily illustrated in the success of the Medico-Legal Society, should not be carried much farther. Joint debates would certainly attract curiosity seekers, but gratification of public curiosity need not always signify a concession to pruriency, and if the contributions of uninformed sensationalism to scientific debate would imply mere waste of time the way in which medical opinions are evaluated by laymen can never be too clearly known. The debate last week in the House of Commons on irregular practice calls pointed attention to the fact that the medical profession should consider whether its relations with the lay public would not be strengthened if more occasions were taken for open comparisons of views. The voice of authority in medicine has never gone unquestioned, and enlightened medicine has never wished that it should so go, but there has been an alteration in public attitude lately, the reasons for which it is desirable to understand. Medical authority is to-day not so much questioned as denied or ridiculed. Persons who know nothing of the groundwork or the outlook of medicine communicate to the daily press dogmatic opinions upon the real causes of cancer and the true remedies for tuberculosis; persons who have never heard of the Medical Acts from which the Medical Council derives its powers vilipend that body; persons who misconstrue the whole meaning of evidence attribute to hysterical impressions the value of scientific tests; and all this, when we have made deductions for commercialism and self-réclame, is published, and we may credit it as being published, with the hope of introducing methods of healing along lines that shall be quicker or surer—anyhow better—than anything which progressive science can supply through the medium of trained and tried workers.

Much of this kind of misrepresentation the medical profession realises must always go on, and the real leaders of medical thought, having the mental habits and necessary acquaintance with the difficulties of reasoning, sympathise with the plight of intellectual people in trying to come to grips with medical positions. It seems such cold good sense to adopt the form of reasoning that where orthodox medicine cannot supply a remedy, members of the public ought to be given equal status with doctors in their efforts to cure disease. But there are gaps in the logic, the fatal ones being that disease has to be diagnosed before treatment can be administered, and that symptoms do not point conveniently to specific complaints for which definite treatment has been ascertained, but supply clues to conditions which can only be followed up by those with general scientific equipment. The motion brought forward by Dr. GRAHAM LITTLE, Member for the University of London, in the House of Commons last week, that an authoritative inquiry should be undertaken with the object of making recommendations to Parliament for dealing with the whole position of irregular practice in medicine and surgery had its origin in the above considerations. The motion was generally criticised in the House as an intention to make medical practice of any sort, save when carried on by qualified practitioners, illegal, and we regret that the debate should have been carried to its inconclusive termination on these lines. For we can conceive that the outcome of such an inquiry as was suggested might have led to a considerable clearing up of misunderstandings and removal of friction with perpetual repercussions. And, indeed, Mr. NEVILLE CHAMBERLAIN'S intervention in the discussion made this fairly clear, although he was unable to support Dr. LITTLE'S motion by his vote. The Minister of Health explained that he could not take any cognisance, from his official position as "General of the Army" of qualified doctors, of efficiency and discipline among those who are unqualified, but he suggested that what he termed "the irregular troops" might in certain cases render valuable public service, and that it would be wrong to prevent the public from deriving advantage from any skill in therapeutics that might be available. No one can hold any other opinion, but the practical problem remains of how to obtain evidence that the contributions to medicine of unqualified people possess the qualities vaunted for them.

Discussion open and free from animus between the public and the medical profession ought to make clear that scientific medicine is not afraid of competition, but must "refuse to coöperate"—to use a stereotyped reproach of doctors—when the principles of the systems of healing are without foundation, or when the claims made for the systems or the remedies cannot be submitted for trial or are based upon secret formulæ. Because a thing is not commonly known to the medical profession it need not be wrong, but it need not be right; and some of the critics of modern medicine might well be asked to remember this. And above all things it should be understood that the Medical Acts were framed for the public protection, so that the public should possess a fully educated medical service. This does not imply that all therapeutic wisdom must reside in that trained body of men and women, and that contributions to medicine from those without that body should be made illegal; Acts of Parliament with such a term of reference would lead to the imprisonment of all chemists, all physicists, all biologists, a vast group of mathematicians, and some philosophers. But it does imply that a standard of medical efficiency has been erected by the State, and that any form of State recognition, extended to persons who do not comply with the standard, must lead to confusion and public peril.

THE SCOTTISH HOSPITALS.

IN the summer of 1924 the Secretary for Scotland appointed the Hospital Services (Scotland) Committee, under the chairmanship of Lord MACKENZIE, to inquire into the insufficiency of the hospital and auxiliary services north of the Tweed, and "to make recommendations for the development and maintenance of those services to meet the needs of the community." After thorough and painstaking inquiry and the hearing of much evidence, summarised from time to time in our columns, the Committee have now issued a report which, while it shows that the hospital needs of Scotland are relatively more considerable than those of England, is a complete vindication of the voluntary system. The voluntary hospitals, the Committee declare, "have won and held a special place in the life of the community. They are capable of playing an equally important part in the future. Any interference with them which would tend to impair their voluntary character would be not only unpopular but thoroughly bad policy." Building upon this bed-rock of voluntaryism, the Committee explain, with clearness and cogency, how the hospital system of Scotland can be enlarged and coördinated with the highest degree of efficiency and the lowest degree of cost. The pressure upon the 131 voluntary hospitals in Scotland is severe and increasing. With an aggregate of 8589 beds, they treat in a year well over 110,000 in-patients and 360,000 out-patients. At the end of last year the waiting-lists of the six teaching hospitals contained nearly 6000 names, and although it is notorious that such lists cannot be taken quite at their face value they do, as a fact, represent a very serious state of things. "Overcrowding has come to be the normal condition of the large hospitals" and some of the smaller ones as well, and so acute is it that, notwithstanding the placing of beds in corridors, in some places "persons suffering from malignant diseases are not always able to obtain immediate admission." Throughout Scotland the insufficiency of beds for subacute and chronic medical illnesses is universal, and is especially marked in regard to maternity and children's beds. The deplorable housing conditions of Scotland are responsible for much of this pressure and for the creation of a vicious circle which prevents its reduction. In unsuitable surroundings the private practitioner can often do little, and a disease which, with reasonable facilities, might be cured in an early stage, goes on worsening until it becomes so acute that admission to hospital is imperative. The patient endures a long period of suffering, his health may be permanently ruined, or the right treatment may come too late. This is not only a tragedy for the sick man and his family, but adds to the sum of unnecessary suffering and preventable mortality.

The Committee's remedy for a situation, which must necessarily grow worse with the increase of population and of the tendency to resort to the hospitals in maternity cases, is the provision of 3600 additional beds and the coördination of the entire hospital system. This figure includes 1000 beds for maternity and the illnesses of children, 600 of which they think ought to be, and could be, provided by the local authorities; which would leave a round 3000 to be created by the voluntary institutions. They put the cost of this additional accommodation at £1,800,000, and propose that it should be equally divided between the hospitals and the State. In their view the provision of nearly a million of money is not beyond the resources of the Scottish voluntary hospitals which, broadly speaking, are in a satisfactory pecuniary position. In 1923, the last year for which complete figures were available, they had a surplus on ordinary income and expenditure of nearly a quarter of a million; extraordinary, or capital, expenditure was little more than a third of the extraordinary income; and their accumulated funds exceeded four millions and a quarter. This is not to say that hospitals with deficits are unknown, but the figures are a clear indication of the vitality of the voluntary principle. Neither the hospitals nor the State would be called upon to provide their quotas in a lump—the expenditure would necessarily be extended over a considerable period. Even in the present position of our finances the provision of something less than a million for a primary need of the national health, spread over a few years, would be no unconscionable burden, even when added to the money that has been asked for further accommodation in England. It is recognised, however, that the provision of a large number of new beds, necessary as it is, will not of itself place the hospital situation in Scotland upon a thoroughly satisfactory footing. Coöperation is needed between the voluntary hospitals and those maintained by public money. In the eyes of the Committee the Poor-law institutions stand completely condemned. In the whole of Scotland there are only three or four of them that would compare well, in staff, equipment, and service generally, with modern general hospitals. Their isolation from the main stream of hospital development involves loss to the patients, to medical teaching, and to the training of nurses. It is, therefore, not only urged that they should be transferred to the public health authorities, but that such transfer has become inevitable. The stigma of pauperism which attaches to them is felt so acutely that even the destitute resort to them with reluctance. On the other hand, the range of the public authority hospitals is constantly widening, although the law applicable to Scotland does not permit of the creation of municipal general hospitals covering the whole field of work such as the Bradford municipal hospital. In some respects accommodation in the public health hospitals is nearly, if not quite, adequate; in others it falls short, but once the health authorities were able to absorb the Poor-law infirmaries the way should be open to a fuller coöperation than has hitherto been possible.

The report contains a number of minor recommendations which, in the aggregate, are of considerable importance. The Committee favour the provision of separate wards or blocks in the general hospitals for paying patients; the exemption from legacy duty of bequests to hospitals; the further development of the principle of workmen's contributions; and—very far from least—the making of much more substantial contributions from national health insurance funds. In 1923, notwithstanding that at least one-third of the patients were insured persons, the health insurance contributions amounted to only 1·9 per cent. of the expenditure. The inadequacy of the assistance from these great funds has long been a sore subject with the voluntary hospitals which, in view of the extent of their services to the compulsorily insured, are clearly entitled to be helped on a much more liberal scale. The execution of the policy outlined by the Committee would require an increase in the income of the voluntary institutions of nearly £300,000 a year to cover the enhanced cost of maintenance, but the proved resiliency of the system is such that there need be little fear, especially with better insurance help, of its not being forthcoming. The valuable proposal is made that there should be a central hospitals commission for Scotland, and it is

obvious that if three types of hospital are to be merged into two, and real coöperation established between them, a coördinating authority would be almost essential. The report, from which the only dissentient is the Labour member of the Committee, has been well received in Scotland, and will commend itself to the general sense of a people which, since the war, has become keenly alive to the growing importance of our hospital system and to the increasing dependence of the national health upon the maintenance of the system at the highest level. Money spent upon the extension and scientific equipment of hospitals is national health insurance in the most complete sense, and no weakening of the voluntary principle is implied in the State offering it a helping hand once in a way. The help that has already been given averted a serious crisis which would not only have involved heavy loss to the Exchequer, but a still more disastrous loss in the moral and spiritual sphere. The voluntary system, thus helped over the stile, has been going forward with increased strength ever since.

THE NATURE OF TUMOUR FORMATION.

THE results of Dr. G. W. NICHOLSON'S laborious histological investigations upon tumour formation and the conclusions he has drawn from many researches already published in *Guy's Hospital Reports* and elsewhere, are embodied in the Erasmus Wilson lectures delivered before the Royal College of Surgeons of England last year, and now published in book form.[1] In the first lecture he considers the structure and functions of tumours and arrives at the conclusion that they are essentially parts of the tissues of the body, showing no fundamental difference functionally or anatomically from normal tissues. He draws attention to the dictum of E. SCHWALBE—that the gradation from uniovular twins on the one side, through acardiac and parasitic fœtuses, certain monsters, teratomata, complex mixed tumours, to the simplest and most highly malignant neoplasms on the other, is so fine as to be almost imperceptible—and holds that this circumstance refutes the pretentions of every kind of parasitic theory to explain tumour formation in general. In the second lecture tissue malformations are considered under the headings of "acquired" and "developmental." Many examples are discussed, including such conditions as the metaplasia of epithelial surfaces in chronic inflammatory conditions and the nodules of ectopic pancreas frequently found in various situations. Dr. NICHOLSON concludes that acquired tissue malformations are the normal reactions of the cells to an abnormal environment. As regards developmental malformations, such as nodules of ectopic tissue, he finds that they represent mature tissues showing no predilection to grow beyond strictly physiological limits, and "give no support to the thesis that they tend to assume blastomatous characters and become the effective cause of tumour formation." In the last lecture, dealing with the sequence of events in tumour formation, he analyses the development of a fibro-adenoma of the breast, and studies a specimen of an embryonic tumour of the kidney in which could be traced the formation of tumour masses from developing glomerular tufts. The occurrence of such embryonic tumours he holds to be one of the few instances of tumour formation from embryonic cell-rests in accordance with COHNHEIM'S theory; even where a tumour has apparently developed from a cell-rest he finds no evidence that the cells of such a rest were from the first more disposed to tumour formation, but believes rather that some anomaly of environment to which they were subjected at an early stage of their life-history has prevented their normal differentiation.

The main question that the author seeks to answer is, "Must we believe that tumours always originate in cells that are abnormal—that are afflicted with a *vitium primæ formationis*—or are they simply the expression of one of the physiological potencies of every perfectly healthy cell in the body?" He finds no satisfactory reason for adopting the former view, but is led by his researches to believe that tumour formation is the physiological reaction of primarily normal cells to a changed environment. As regards the change of environment necessary to produce tumour formation, the question of parasites is considered. Dr. NICHOLSON states that he is in sympathy with those who assume that a parasite is not present in all tumours, but only in malignant ones. To contend that every tumour harbours a parasite would, in his view, be equivalent to saying that all growth must be the result of parasitic action. In view of the recent experimental evidence in favour of a parasite in malignant tumours his conclusions are of particular interest, since they were arrived at independently and from a purely histological standpoint.

The evidence available at the present time certainly indicates that the environmental change to which the cells are subjected is the major factor in the production of the majority of tumours, and normal cells can undoubtedly be stimulated to tumour formation by suitable experimental procedures. We cannot, however, ignore the question of the predisposition of the cells of certain individuals to react more readily to tumour-producing factors. Complete uniformity in this respect amongst normal individuals or the normal cells of such individuals is not to be expected. The question remains, however, whether the normal variations are of such a degree as to become an effective factor in producing either an immunity or a susceptibility to tumour formation in certain individuals or groups of individuals. The extensive studies of MAUD SLYE[2] on the inheritance of spontaneous tumours in mice show not only that the tendency to tumour production is inherited, but that it follows strict Mendelian laws and can be demonstrated as a recessive character with almost the same precision as can such an obvious character as albinism. This worker has bred strains of mice showing, on the one hand, the development of spontaneous tumours in 100 per cent. of cases, and on the other the absence of such a tumour in 15 generations; she also produces evidence that the site and characters of the tumours can be influenced in the same manner. In view of such evidence, while admitting that the cell environment is probably the determining factor in tumour production, one can hardly dismiss from consideration inherited hypersusceptibility of the individual or of certain organs or parts of organs.

[1] The Nature of Tumour Formation. By G. W. Nicholson, M.A., M.D., Reader in Morbid Histology, University of London, and Lecturer on Morbid Histology, Guy's Hospital Medical School. London: W. Heffer and Sons, Ltd. 1926. Pp. 99. 6s.

[2] Our Present Knowledge of Heredity. Mayo Foundation Lectures, 1923–1924. Pp. 101.

JOINT TUBERCULOSIS COUNCIL POST-GRADUATE COURSES ON TUBERCULOSIS.—Dr. S. Lyle Cummins, David Davies professor of tuberculosis, Welsh National Medical School, principal medical officer, Welsh National Memorial Association, will hold an intensive post-graduate course on tuberculosis, commencing April 12th next and ending April 17th, for medical men and women specially engaged in tuberculosis work. The course will consist of clinical meetings with demonstrations of medical and surgical cases at Glan Ely Hospital, Fairwater, near Cardiff, and at Cefn Mably Hospital, near Cardiff; X ray demonstration and reading of films at Glan Ely Hospital, Fairwater; daily lectures and daily pathological demonstrations at the Welsh National School of Medicine, Cardiff. The names of those wishing to attend should be sent as early as possible to the Hon. Secretary, Joint Tuberculosis Council Post-Graduate Courses, at 19, Brunswick-square, Camberwell, London, S.E. 5 ('phone Hop. 1169), from whom particulars can be obtained.

Annotations.

"Ne quid nimis."

THE SCIENCE OF VENTILATION.

MUCH attention has been given recently to a study of the comfort and welfare of industrial workers, particularly with regard to the atmospheric conditions necessary to promote health and efficiency. Researches under the control of the Medical Research Council and the Industrial Fatigue Board have illumined many problems of profound importance to national health, and the results have revolutionised our ideas in many directions. The trend of thought dominating the literature on the subject has centred round one particular instrument—viz., the katathermometer, the introduction of which, by Dr. Leonard Hill, marked an epoch in the science of ventilation. Much independent evidence has been brought forward of the value of the katathermometer in detecting errors in ventilation; and, although some have attempted to indicate where the instrument fails, it has become increasingly evident that no other single instrument combines so well the two variables of temperature and air velocity. Indeed, Dr. H. M. Vernon and Mr. T. Bedford, in Part III. of the report [1] just issued, show that the correlation of cooling power, as determined by the katathermometer, on air sensations—stagnancy or freshness—is 0·703 in summer and 0·790 in winter. Apart from such evidence of the value of the instrument, its chief success lies in the marked stimulus it has given to research in the problems of ventilation, not only in Great Britain but all over the world, in the United States of America, in Germany, and in Japan.

As investigator to the Industrial Fatigue Board, Dr. Vernon has initiated several lines of research in Great Britain, and the present report contains four valuable studies. In Part I. Dr. Vernon and Mr. J. J. Manley describe two new instruments designed for measurements of variations: (*a*) in the velocity, and (*b*) in the temperature of air currents. For the former purpose a new form of hot-wire anemometer was constructed, being calibrated by the katathermometer. This anemometer is very sensitive to changes of air velocity, whilst little influenced by changes in air temperature. For the study of changes in temperature a suitable thermopile was devised, which was unaffected by changes in velocity. In Part II., for which Dr. Vernon is alone responsible, we are informed that the katathermometer "factor" varies with the temperature. The necessary corrections over a wide range have been determined and will allow the low air velocities found in an ordinary room to be measured with far greater accuracy. In Part III. Dr. Vernon and Mr. Bedford (assisted by Mr. C. G. Warner) prove that to produce a given sensation of air movement in winter required a cooling power about one unit higher than that required in summer. This was due to acclimatisation and the mean cooling power (in relation to a given sensation) was found to change gradually from month to month as the mean temperature changed. A considerable allowance has thus to be made for acclimatisation; if a cooling power of 6 is reasonable during mild weather, one of 5 may be equally reasonable during hot weather, and one of 7 during cold weather. The effects of oscillations in air movement and temperature also were explored by means of the specially designed instruments already mentioned. It was found that whilst the sensation of air movement was apparently increased by increasing the oscillations of air velocity, no clear proof was obtained of its increase by oscillations of temperature.

The concluding section of the report records a series of careful and patient observations by Dr. Vernon upon himself, which indicate that in order to induce an actual cooling of the overheated body of a man engaged in hot and heavy work, it is of most importance to reduce the temperature, and next in importance to reduce the clothing, whilst an increase of air velocity has but little effect; however, if the body be naked or only clothed in vest and trousers, the effect of moving air on the cooling-rate is considerably greater than when the body is more warmly clothed. Observations made in a new wind tunnel at the National Institute for Medical Research have, we understand, shown that if the velocity is great enough to drive air through the clothes, and so ventilate the clothing, velocity has a very great effect on the comfort of the warmly clad man. These results extend those given by Dr. Vernon for his step-climbing experiments.

[1] Medical Research Council, Special Report Series No. 100. Methods of Investigating Ventilation and its Effects. By H. M. Vernon and Others. London: H.M. Stationery Office. 1926. Pp. 71. 2*s*.

ECZEMA AND URTICARIA.

A RECENT discussion at the Royal Society of Medicine [1] showed how obscure the problem of eczema still is. The term eczema does not even describe a recognised clinical entity; originally restricted to a watery eruption of the skin, it has been expanded to cover almost any form of skin trouble of unknown origin, and the various schools differ so widely in their definitions of clinical eczema that, for practical purposes, each observer recognises his own particular variety and no other. Osler's text-book contains no definition of eczema. Obviously the whole problem needs restating, and the authority who attempts this must clear the ground at the clinical end before he proceeds further. Dr. Erwin Pulay's monograph, "Ekzem und Urticaria" [2] is a summary of the most recent work in this branch of dermatology, and deals comprehensively and impartially with the leading theories of the causation of the manifold types of reaction that are classed as eczematous. The key-symptom he holds to be the characteristic irritating itch, but the watery nodules which Blaschko and others regard as pathognomonic he does not consider inseparable from eczema. Many forms of undoubted eczema do not show them and they are conspicuous in many conditions, such as impetigo and the pemphigus group, that are completely distinct from eczema. He draws freely on the results of Weidenfeld, and quotes his classification into the three groups of anæmic, seborrhœic, and psoriatic eczema. The second of these is by far the most frequent type and presents the clearest symptoms, which do not include the formation of watery nodules. It results from a peculiar constitutional condition of the skin and is often associated with alimentary disorders. The third division is the protean dermatitis by which eczema manifests itself in psoriatic subjects.

Eczema is a definite clinical skin reaction that requires two factors for its production—an exciting agency and a diathesis. All efforts to reduce it to a single ætiological formula have, however, failed, especially the parasitic theory of Unna. Both its precipitant and its diathesis vary with the individual, and some eczema subjects respond to all kinds of skin irritants and some only to one. The latter are probably always victims of an anaphylaxis, and their reaction is an antigenic defence. The physiological basis of every eczema is an abnormal sensitivity both of the skin and of the nerve-endings; that of the latter can be caused by almost any lack of metabolic, endocrine or nervous balance, and that of the former by external irritation, which will have more effect on some skins than on others. This may explain the frequent liability to eczema of persons with a "rheumatic" diathesis. One form is undoubtedly scorbutic and yields to treatment by vitamin C. Urticaria is distinct from eczema, and is founded on a constitutional or anaphylactic sensitivity of the capillary vessels. An internal excitant will produce urticaria if the capillaries are sensitive, and non-eczematous dermatitis if the epidermic cells are sensitive; if the sensitivity is in the nerve-endings

[1] THE LANCET, 1925, ii., 1333.

[2] Ergebnisse der gesamten Medizin, Prof. Dr. Th Brugsch, 7er Band, Urban und Schwarzenberg, 1925.

it will give pruritus and, if the epidermis is sensitive, as it is when subject to external irritation, it will give eczema. Both urticaria and eczema can be hæmatogenous, but eczema only on a site where it has appeared before. The excitant of primary eczema is nearly always scratching of the parts where the nerve-endings are excited. Pruritus is always a part of the clinical picture of eczema, and its origin is usually endogenous; it may, however, be caused by lice, scabies, or local infectious conditions, and may develop into eczema if the skin is injured mechanically. Idiosyncratic eczema and urticaria are comparatively rare. They appear only when one particular organ or system is excited, and are distinguished thereby from the anaphylactic manifestations, with their attendant eosinophilia and general vagotonic symptoms.

Whether or not eczema and urticaria are curable depends, in Dr. Pulay's view, on whether or not they have caused irreversible changes in the cell-albumin. The fixation of an adaptive change, and so the perpetuation of each step forward in evolution, is effected by an irreversible change in this substance and, if a pathological process continues long enough, the cells cannot recover their normal function. The conditions of physiological life give ample scope for reversibility and a minimum opportunity for any process to become fixed. No physiological change occurs, however, without some alteration in the composition of the cell-proteins, and the mechanism of the eczema reaction will have ultimately to be solved by the colloid chemists.

ANTIRABIC INOCULATION.

THE strict Pasteurian method of inoculation with rabbits' spinal cord, dried for varying periods and believed to contain a truly attenuated as opposed to a partially destroyed or merely diluted virus, has been superseded in India by the use of a vaccine killed with carbolic acid. This innovation was originally due to the work of Fermi begun some 20 years ago. The method was reinvestigated by Semple in India in 1911 and has been approved by Harvey and McKendrick. It was adopted at the Kasauli Institute in 1912 in place of the dilution method of Hoegyes which had been used there since 1907. The report [1] by Dr. G. Stuart and Dr. K. S. Krikorian for the two years ending April 30th, 1925, on Antirabic Procedure in Palestine, records the treatment with carbolised vaccine of 1920 persons with 0·82 per cent. mortality. Of these, 420 were presumably at risk and their death-rate was 1·47 per cent. The preparation used is a 2 per cent. emulsion in distilled water of brain from a rabbit dying of rabies on the ninth day after inoculation with fixed virus. To this is added 1 per cent. phenol and it is then kept at 37° C. for 24 hours, and subsequently diluted with an equal quantity of salt solution and stored in the ice-chest. Its efficacy is considered to remain unimpaired for three months, after which period the stock is renewed. In the first of the two years the above vaccine was diluted further with an equal quantity of saline before inoculation, but since May, 1924, the full strength of 1 per cent. brain material has been used. The virus in such a vaccine is apparently quite dead since large doses to rabbits and eventually to man in the course of treatment do not infect. In all cases of exposure to infection a dose of 5 c.cm. is given daily for 14 days, 2·5 c.cm. being inoculated subcutaneously on either side of the abdomen. The advantages claimed for the method are efficacy, safety, cheapness, simplicity of manufacture, the good keeping qualities of the vaccine, the ease with which it may be distributed, and the consequent accessibility of the treatment. Experiments on rabbits and the clinical results demonstrate its harmlessness, and further experimental evidence is adduced that the preparation will, in some instances, but by no means always, protect rabbits against large doses inoculated subdurally. Evidence of the prophylactic power of carbolised rabies virus has also been brought forward by Kondo, and recently Schlingmann has given details [2] of experiments in which a single dose of a similar vaccine given subcutaneously protected dogs against 5 to 200 infective doses given subdurally 21 days later. These results should encourage further search for a yet more potent dead vaccine.

[1] Ann. Trop. Med. and Parasitology, 1925, xix., 391.

SANOCRYSIN TREATMENT IN BERLIN.

THIRTY-FIVE years have passed since Koch made his first report on tuberculin. Older physicians remember very well the rush of patients from every part of the world to Berlin for a cure by the new remedy, and the disappointment which followed for those who had spent their last savings on that journey. Since then there has been a good deal of scepticism when new treatments for tuberculosis are announced, and sanocrysin, like other remedies, has been received with reserve in Berlin, as our correspondent there informs us. For the examination of the new compound a committee was formed, consisting of Prof. F. Neufeld, head of the Robert Koch Institute; Prof. F. Kraus, ordinary professor of medicine and head of the medical clinic in the Charité Hospital; Prof. A. Czerny, head of the university clinic for children's diseases; and Prof. U. Friedemann, head of the department for infectious diseases in the Virchow Hospital. After experiments carried out on animals, Prof. Neufeld came to the conclusion that against strains of tubercle bacilli more virulent than those obviously used by Prof. H. Mollgaard, the results were not so favourable. He is of opinion that a curative effect may be obtained when the tubercle bacilli are easily accessible to the compound; but this is not as a general rule possible in human beings where the tuberculous centres are surrounded by a thick wall of tissue. In the clinical test albuminuria was sometimes observed after the administration of the compound, when the dose was too large; and the reaction varied very much in different patients. Only serious cases, in which other remedies had failed, were selected for trial, and this rule was especially kept in the case of children, in whom slight infections often clear up without any special treatment. Twelve children were attended by Prof. Czerny, of whom three suffered from tuberculous meningitis and three from miliary tuberculosis. They were chosen because their tuberculosis was certainly not of old standing and was therefore suitable for sanocrysin treatment. Only one of them is still alive, and he is not in good health. It seemed that in children the compound had a rather unsatisfactory influence on the course of the illness, although no definite judgment could be given. In the clinic of Prof. Kraus the remedy was administered in nine cases; three of them died, one was not improved, and in one the administration had to be interrupted. In four cases, however, a considerable improvement was obtained. It is remarkable that the cases which improved were of an aggravated kind, and had not profited from other treatment. In the Virchow Hospital 54 cases were treated by sanocrysin. In some of them the fever ceased, the weight increased, and the state of the lungs became more satisfactory. The discharge diminished, and in seven of the cases the tubercle bacilli disappeared. The patients of the Virchow Hospital belong mostly to the poorer classes, and sometimes improve without any special treatment other than the better care and food they get in hospital; but the administration of sanocrysin had a marked influence in 19 out of the 54. According to Prof. Friedemann it is worth while to administer sanocrysin, although it cannot yet be described as the remedy for tuberculosis. The committee came to the conclusion that the compound ought not to be tried outside hospitals, because its dangers are not yet fully ascertained; that certain patients show an idiosyncrasy to it; that the first doses should not exceed 0·25 g.; that the intervals ought not to be made too short; that fresh exudative

[2] Jour. Amer. Vet. Med. Assoc., December, 1925.

cases are the most suitable for the treatment; and that it might be administered in hæmoptysis to prevent the bacilli spreading throughout the lungs.

THE CLASSIFICATION OF MENTAL DISEASE.

IF the classification of physical disease is obscure, it is not surprising that that of mental disease should be almost inchoate. Mental disease is a reaction of the whole personality and, in the words of Bianchi, "as a sphere with various designs made to revolve on different axes presents a new aspect at every turn, so the field of the mental affections presents a different picture on every classification." These designs never correspond, and a classification made from one aspect only will be stultified by one made from another equally vital aspect. A purely ætiological distinction is useless, because the same cause will produce completely different results in two different individuals. The bases of pathology and anatomy on which all classification is founded in general medicine will only support a very small part of the structure that has to be built out of a great and at present almost unrelated mass of clinical material. There is no doubt that patient research will enlarge this basis. Possibly in fullness of time it may become large enough to support the whole structure. Meanwhile, however, psychiatrists need a common classification to enable them to work together, and students need one to give them landmarks by which they may direct their study with a minimum of confusion. A survey of the current text-books on psychiatry makes it appear at first sight that the classificatory schemes used by different authorities have very little in common, but a closer scrutiny will show that, thanks chiefly to Kraepelin, they nearly all recognise three main groups of mental affection. The first includes those due to an evolutionary psycho-cerebral defect, the second those caused by infective, autotoxic, and toxic agents in properly evolved individuals, and the third those with an organic basis, a diffused or localised pathological lesion of the brain. This scheme is, in its beginning, ætiological, and it is obvious that these divisions are by no means water-tight compartments and that many conditions are common to two if not to all of them. An idiot is as liable to a psychosis of toxic origin as a fully evolved person, and evolutionary defects of the brain are very often due to organic lesions such as those caused by inherited syphilis and the traumata that occur during parturition or the early years of life. Nevertheless, whatever may be the clinical picture, the criterion upon which each of the groups is based is the most prominent feature of the condition, and this broad division is not incompatible with the clinical criterion that must govern both the skeleton and the details of a true classification.

Dr. C. C. Easterbrook, in his Morison lectures for 1925, which have just been reprinted in book form,[1] has put forward a classification based on 20 years' intensive study not only of the clinical condition of mental invalids, but also of their family history, their past bodily and mental history and environment, and often their after-history or post-mortem pathology. He classes the psychoses under the five headings of Congenital, Constitutional, Organic, Organismal or "Bodily," and Toxic and Energic. The first group deals with the various forms of amentia, the second with the biogenic psychoses, and the psycho-neuroses from which psychosis develops. The third group contains the psychoses due to sclerosis, to cerebral tumour, hæmorrhage, embolism, &c., to cerebral syphilis, and to other gross nervous lesions. The fourth group are those caused by infections and associated with physical disease, and the fifth contains the psychoses resulting from exogenous poisons and traumata. One disadvantage of this classification is that it does not recognise the essential similarity between all the psychoses of toxic origin, whether the toxin is endogenous or exogenous. The common factor between them is the biological defence mechanism of confusion, clearly one instance out of many in which the clinical consideration far outweighs the ætiological. For this reason his fifth group seems to be unnecessary; the psychoses due to poisoning by drugs or chemicals would be better classified in a general toxic group, and those due to trauma are allied both ætiologically and clinically with other psychoses of organic origin. It is also very doubtful whether the psychoses developed in association with many physical disorders have any clinical connexion with the physical disorder at all. Sir Maurice Craig devotes a special chapter in his "Psychological Medicine" to these secondary mental disturbances, and points out that very few physical disorders, other than the infective states, exert nearly so much influence on the form of the accompanying psychosis as does the patient's own constitution. If they have any common factor it is more probably that recently noted by Freud in his theory of "pathoneurosis"—i.e., the tendency of any physical disorder to produce a psychotic reaction by attacking the self-regarding sentiment. This would place them in the biogenic group.

It would be easy to multiply criticism of an individual classification, and it is a merit of Dr. Easterbrook's that it contains many points which challenge accepted thought. Complete success is unlikely to attend any attempt at detailed classification of mental diseases until pathologists supply us with the essential data. In the meantime we may have to be content with the broad outlines of Kraepelin's scheme, determining the details by the factor which he rightly held to outweigh all others—namely, the clinical.

[1] Mental Invalids. Oliver and Boyd. Pp. 86. 5s.

SPIRITUAL HEALING AND MODERN MEDICINE.

THE paper read by Dr. F. G. Crookshank on this subject at a meeting of the Hunterian Society, when various ecclesiastical authorities took part in the debate, was reported in abstract in THE LANCET of Nov. 14th, 1925. The paper is now published in full in *Psyche* for January, 1926, and may therefore be studied by those who are interested in the subject and who found in the abbreviated version of his words an invitation to closer study. We shall not, we think, misinterpret his position if we say that he is greatly concerned with what is, nowadays, generally agreed to be of vital importance—namely, the problem of the relations between science and philosophy, or metaphysics. He holds, indeed, that the general neglect in medicine of first principles has led many to declare that all considerations of a metaphysical nature are vain at the very moment that they themselves base their theories and beliefs on a form of metaphysics all the more dangerous because not recognised. Medical men who are materialists in metaphysics and realists in logic do come, almost insensibly, to ignore the importance of phenomena that they cannot "explain" in terms of their own prejudices, and so to despise the observations of others who do seek, honestly, to "explain," in terms of idealism or religion, phenomena that have been the subject of attention throughout the centuries. It is, perhaps, time that in medicine there was some change of orientation. As Dr. Crookshank suggests, so long as the dog and cat know when and where to seek the grass they eat when ill, and so long as this knowledge is "unexplained," it cannot be said that the healing art is entirely comprised by a knowledge of physical signs and post-mortem appearances. The antithesis between the functional and the organic case of disease still, perhaps, dominates too much orthodox teaching, but cases are now restored to health as a result of treatment involving recognition of the predominance of the spiritual or mental factor, which, a few years ago, might have been subjected to a routine of operative interference sometimes unnecessary and often futile. Dr. Crookshank suggests that recognition of the importance of the spiritual factor may come about, in these latter days, as a result of the attention now being paid to the

tenets of psycho-analysis, and that ideal, of course, lies behind the intelligent part of the support extended to this teaching. And, in this connexion, it is worth while calling attention to the synthetic work of Blondel (too little known in this country) wherein it is attempted to reconcile the points of view of Freud, of Jung, of Adler, and of the Church by the adoption of a formula which implies the origin of every "conflict" in "la conscience morbide." Dr. Crookshank writes with clearness and learning on matters whose difficulty calls for just those qualities if they are to be dealt with in any useful manner.

IMPAIRED RENAL FUNCTION.

THE investigation of early renal disease and of minor degrees of renal deficiency has received considerable impetus in recent years from the introduction of more perfect methods of chemical investigation. Whether these methods have led to marked improvement in early diagnosis and increased accuracy in prognosis is more questionable. Even now, unhappily, the methods in use only give information when the renal damage has already become extensive. It has been estimated that a faint trace of albumin in the urine at the age of 40 or over represents a death-rate from nephritis ten times higher than the normal, a trace increases this rate to 30 times the normal, whilst with large amounts plus casts the rate is about 50 times the normal. Every physician has seen amongst his patients cases with a trace of albuminuria, associated with a normal blood pressure, in whom blood analysis and such tests as the urea-concentration test proved indecisive, when, nevertheless, uræmia or fatal arterial changes followed in a surprisingly short period. It would seem that neither the clinic nor the laboratory can yet give us the information we require concerning these cases. An interesting investigation with a view to improving our knowledge in this direction has been recently published by Dr. Nellis B. Foster,[1] of New York. In nine patients who had had one kidney removed he carried out very complete tests. The patients selected were all under 40 years of age, without signs of disease in the remaining kidney, and the inquiry was in each case undertaken within three weeks of the removal of a diseased kidney. In this way it was hoped to exclude kidneys with changes due to disease or senility and also without suspicion of compensatory hypertrophy; but as tuberculous disease in the remaining kidney can never be wholly ruled out, Dr. Foster rightly stresses the results given in these cases where the trouble for which nephrectomy had been performed was not tuberculous. The tests chosen were, first, Volhard's water-excretion test, consisting in the administration of 1500 c.cm. of water drunk in half an hour before breakfast, a total excretion of at least a litre during the following four hours being considered necessary to establish normality; secondly, the patients were for 24 hours given an ordinary diet without any fluids—that is, neither drinks nor soups of any kind—but otherwise a normal diet. In such circumstances a normal man will at the end of the test period usually void urine of a specific gravity of 1030 or higher; in the nephrectomised cases only one case yielded a urine of such density as to be considered absolutely normal. The third test employed was that of ascertaining the ratio (urea in one hour's urine) ÷ (urea in 100 c.cm. of blood) which, according to Addis and Drury,[2] averages 50 and should not fall below 34 in normal persons even when the urea in the blood has been artificially increased. The cases investigated by Dr. Foster were given 30 g. of urea in a litre of water before the test, and it was then found that in every case the ratio given fell below Addis's standard of normality. In cases where the test was repeated at a later date the result indicated a considerable return towards the normal, a result which points either to some hypertrophy of the remaining kidney or to the kidney having suffered some toxic depression at the time of the original test. Reviewing the results as a whole, the author feels that the demonstration of renal deficiency in persons with only one kidney is only doubtfully revealed by these tests, the ratio after giving urea being the only test pointing at all consistently to any limitation of kidney function.

[1] Arch. Int. Med., 1925, xxxvi., 884.
[2] Jour. Biol. Chem., 1923, lv., 105.

THE DEFENCE OF EXPERIMENTAL MEDICINE.

AN account of the history of the Research Defence Society, founded 18 years ago, is given in the current number of the organ[1] of the Society, and may be recalled for the benefit of those of our readers to whom the story is not familiar. It arose out of a committee organised by Prof. E. H. Starling to collect evidence for the Royal Commission on Vivisection. When all the evidence had been set out and published, enthusiasts such as Mr. Stephen Paget were not prepared to let good machinery be broken up. A society was formed in order to bring about a better understanding of the value of medical research, and to expose false statements made with the object of limiting and hindering those animal experiments on which its progress so largely depends. The Society throve progressively during the first six years of its life, and in 1914 numbered over 5000 members and associates. The war years demonstrated the value of prophylactic methods in protecting whole armies from disease, and broke down much of the prejudice against the use of experimental animals for the production of sera, for the standardisation of biological products, or for the testing of remedies. While the objects of the Society were thus being realised, its membership decreased and during the war its activities were necessarily curtailed. A revival of these appears to be taking place, for three debates are reported in the January issue of the journal. Probably a better method of propaganda also employed by the Society is the popular lecture, because the public are eager to learn of new discoveries in medical science even when these have no immediate bearing on prevention or treatment of a specific disease. The modern doctor tends to take for granted the need for observations on animals and sometimes neglects to equip himself to meet the arguments still advanced against them. The Research Defence Society exists to uphold and defend experimental medicine and ought to have a membership as wide as the Medical Register.

[1] The Fight against Disease. Macmillan. 6d.

NEOPLASMS OF THE TESTICLE.

SINCE the classic paper of Wilms in 1896, it has been generally recognised that the mixed tumours of the testicle are teratomata. Data have slowly accumulated to show that, with the single exception of the rare testicular "dermoid," the teratomata of the testicle are extremely malignant, and this malignancy has been held to be a carcinomatous or sarcomatous degeneration of a previously benign tumour. From the study of some 95 tumours of the testicle, Mr. H. W. B. Cairns, first surgical assistant at the London Hospital, has decided that this view is incorrect. Primary tumour and its metastases, he states, exhibit the same remarkable power of differentiating to form histologically benign tissues, exactly similar in structure to the tissues of the normal fœtus. The teratoma retains its biological characters in its metastases and is, therefore, inherently malignant. Mr. Cairns laid his conclusions before the Royal College of Surgeons in a Hunterian lecture on Feb. 12th. The series of cases he has collected is unusually large and the opinions formed are of corresponding importance. Only three cases of true hypertrophy of the breast accompanying tumours of the testicle have previously been recorded; Mr. Cairns's series contains another three. This hypertrophy is of interest as an indication of the fœtal nature of teratomata of the testicle; further evidence is afforded by the occasional discovery of chorionic remnants in the tumours. Considerable controversy has raged over the nature of the common spheroidal-celled tumour of the testis, variously

described as alveolar sarcoma, carcinoma, or séminome. In 1911 Ewing claimed that this tumour was teratomatous, but his view has not been generally accepted either in this country or in France. The London Hospital cases, however, provide overwhelming evidence that the spheroidal-celled tumour belongs to the teratoma group. Cells morphologically identical with the spheroidal cells are found in great profusion in almost every teratoma of the testis; and tumours occur which are, even to the naked eye, mixtures of teratoma and spheroidal-celled tumour. The exact position of the spheroidal-celled tumour in the teratoma group is not quite clear. Ewing has contended that the spheroidal-celled tumour is formed by overgrowth of one element of a pre-existing teratoma, but his view receives no support from this series of cases. On the contrary, the evidence from the London Hospital suggests that the cells of the spheroidal-celled tumour are totipotent and that they arise in the seminiferous tubules. Mr. Cairns's series throws suggestive light on the much-discussed relationship of injury to tumours of the testicle. He considers it highly probable that the part played by injury is not to initiate the neoplastic process, but rather to stimulate the more rapid growth of a pre-existing but hitherto unobserved tumour. Approximately one-third of the cases are cured by operation, and the London Hospital figures are slightly favourable to the radical operation as compared with the more simple operation of orchidectomy. We propose to publish Mr. Cairns's interesting lecture in a later issue.

THE Royal College of Physicians of London has issued the following programme of memorial lectures. They will be held during the spring on Tuesdays and Thursdays at 5 P.M., and any member of the medical profession will be admitted on presentation of a visiting card. Prof. W. W. C. Topley will deliver the Milroy Lectures on March 2nd, 4th, and 9th, and has chosen Experimental Epidemiology as his subject. Dr. Bernard Hart will follow on March 11th, 16th, and 18th with Goulstonian Lectures on the Development of Psychopathology and its Place in Medicine; whilst on March 23rd, 25th, and 30th Sir Thomas Horder will deal with Endocarditis in his Lumleian Lectures. None will be held in April, but on May 4th and 6th Prof. Hugh MacLean will give two Oliver-Sharpey Lectures on Carbohydrate Metabolism in Health and Disease, and on June 8th, 10th, 15th, and 17th Sir Thomas Lewis will describe in four Croonian Lectures his Observations upon Blood vessels of the Human Skin.

THE memorandum addressed to the Ministry of Health by Sir George Newman in July, 1924, on Public Education in Health, has been reprinted, the demand for it having been exceptional. No alterations of substance have been made to the pamphlet, which we have abstracted (THE LANCET, 1924, ii., 671), but the information has been brought up to date, and reference is made to that section of the Public Health Act (1925) which empowers local authorities to undertake health education by means of the publication of information, the delivery of lectures, and the display of pictures. The subjects of tuberculosis, venereal diseases, and infant welfare have perhaps received the most organised attention on the part of local authorities, but many other aspects of public health have also been the subject of propaganda. These include cleanliness, domestic sanitation, the prevention of infectious disease, and the hygiene of childhood. Sir George Newman notes the just claim made by medical officers of health that their annual reports are a form of propaganda work which is not sufficiently read and appreciated by the public. These official reports, of which prescribed statistics and routine tabulations form only a part, afford opportunities of guiding the local authority and the public and are readable and informative documents, to which we are constantly calling attention.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

CLXI.

THE TREATMENT OF CHRONIC TONSILLITIS.

I. CHOICE OF METHODS IN CHRONIC TONSILLITIS.[1]

THERE are two types of tonsil: (*a*) The pedunculated, in which the space between the pillars of the fauces is wide and the fold of mucous membrane passing from the anterior pillar on to the tonsil is poorly developed, so that a large part or even the whole of the medial aspect of the tonsil is exposed. (*b*) The embedded tonsil, in which the opening between the pillars is narrow and the plica is well developed, so that only the lower portion of the inner surface is exposed. This type of tonsil appears small on first inspection and it is only when the patient is made to gag and the tonsil is outlined through the palate that its true size becomes apparent. The efferent lymphatics of the tonsil pass to the jugulo-digastric or tonsillar gland, which lies just behind the angle of the mandible.

Physiology.

The faucial tonsils form part of the lymphatic ring which guards the entrance to the alimentary and lower respiratory tracts. In the germinal centres lymphocytes are formed and some of them migrate through the epithelial lining into the crypts and act as phagocytes. Adam compares the tonsil to a sponge which is "wrung" by the contraction of the surrounding muscles during the act of swallowing. When the muscles relax the tonsillar sponge takes up some of the fluid and bacteria from the mouth. The tonsils are most active in early life and form a first line of defence against the invasion of infectious disease. The crypts probably act as culture tubes from which toxins are absorbed so that the tonsils may be regarded as organs producing active immunity—i.e., as the vaccine laboratories of nature (Digby). When the tonsils are themselves diseased they no longer act as defensive organs but are a source of danger. If, as some have supposed, the tonsil had an internal secretion, we should expect that the ill-effects of enucleation would long ago have become manifest, but this has not been the case.

Pathology.

Medical examination has shown that in this country from 6–10 per cent. of school-children suffer from such hypertrophy of the tonsils as to necessitate enucleation. Hypertrophy and sepsis are commonly associated (Brown Kelly). Attention to the hygiene of the mouth and teeth has, however, a beneficial effect on tonsillar enlargement. Infection may be limited to the surface or may spread beneath the epithelium of the crypts (lacunar tonsillitis). The capsule may be penetrated and an abscess may arise in the peritonsillar space above and lateral to the tonsil. In many cases the tonsil trouble is found to date from an attack of diphtheria, measles, or scarlatina; indeed, many regard scarlatina as a streptococcal blood infection, the tonsil being the main or only point of entrance. Rheumatic fever is often preceded by tonsillitis and the streptococci of rheumatism have been recovered from the tonsil and, on inoculation into rabbits, have produced endocarditis. Chorea has also been associated with tonsillar infection. The circulating virus selects a certain tissue for its growth, probably as a result of sensitisation (Brown Kelly). Newkirk rightly points

[1] An article in this series by Mr. Fraser on Tonsillectomy in Adults and Children will appear next week.

out that many people have marked pyorrhœa or grossly infected tonsils and yet live to a ripe old age. All depends on the patient's power of resistance.

Bacteriology.

The following organisms have been found on bacteriological examination of the tonsils (Wall): streptococci, 99 per cent. (these organisms are the cause of lacunar tonsillitis and peritonsillar abscess); *Micrococcus catarrhalis*, 94 per cent.; *Staphylococcus aureus*, 60 per cent.; pneumococci, 56 per cent.; diphtheroids, 30 per cent.; *B. influenzæ*, 18 per cent.; *B. coli*, 8 per cent. When hypertrophy is the indication for enucleation, less than 1 per cent. of tonsils show tuberculosis, but when the cervical glands are markedly enlarged, 38 per cent. are tuberculous (Carmichael). Mitchell has shown the close connexion in Edinburgh between tuberculous milk and tuberculosis of the tonsils and cervical lymph glands. He finds that 88 per cent. of cases of tuberculous cervical adenitis are due to infection spreading from the tonsil. In these cases the tonsils themselves are frequently normal in appearance.

Local Indications for Enucleation.

These include: (1) Frequent attacks of tonsillitis. (2) Peritonsillar abscess; some surgeons recommend enucleation in the presence of such an abscess in spite of the difficulty of getting the patient's mouth open widely and the risk of excessive hæmorrhage. They point out that only one operation is required, that the abscess is most efficiently drained by enucleation, and that the dissection has already been partially accomplished by the abscess formation. It is better, however, to wait till the "quinsy" has subsided. (3) Great enlargement causing obstruction to respiration and swallowing. (4) Well-marked enlargement of the cervical glands which does not subside after an attack of tonsillitis. (In many of these cases of apparently "acute" adenitis the condition is really tuberculous.) The fact that the jugulo-digastric gland can just be palpated is not sufficient indication for tonsillectomy, as this condition is present in the majority of children. (5) Tuberculous cervical adenitis, involving the tonsillar and neighbouring glands. (6) The presence of pus or foul-smelling material in the tonsil crypts. In such cases there is, as a rule, marked congestion of the anterior faucial pillars. The condition of the tonsil crypts may be ascertained by pressing on the palate lateral to the tonsil with Tilley's instrument or by employing a cup-shaped glass suction tube fitted with a rubber bulb. The fact that a little cheesy material can be squeezed out of the crypts on pressure is not sufficient indication for enucleation, as this condition is found in from 30 to 50 per cent. of people who do not complain of any throat trouble. (7) Diphtheria carriers.

Indications Associated with the Presence of Disease in Other Parts of the Body.

In cases of disease of other parts of the body the tonsil may be the focus of infection. Here the indications for enucleation are more difficult to state. The patient's age and general health must be taken into account. Other sources of septic infection should be sought for and removed—e.g., in the teeth, paranasal sinuses, genito-urinary and alimentary tracts. It is not desirable to remove apparently healthy tonsils merely because no other cause can be found for the patient's trouble. There should be definite evidence that the tonsils are themselves diseased. The "focus of infection" theory is rather overdone at present. One sees patients who have had all their teeth extracted, their appendices removed, their tonsils enucleated, and yet are no better, or even worse, for all this operative interference. The case is clear, however, if a history is obtained such as that, following an attack of tonsillitis, the patient has suffered from rheumatism.

Contra-indications to Operation.

Contra-indications to operation are as follows. Fever: The temperature should always be taken on admission and again before operation, as the child may be developing an infectious disease. Hæmophilia: The surgeon should inquire as to any history of bleeding, and, if necessary, test the clotting time of the blood. Acidosis: The urine should be tested. This can only be done if patients are admitted to hospital on the day before operation. Advanced rheumatoid arthritis, pulmonary tuberculosis, diabetes (serious cases), and arterio-sclerosis.

Methods of Choice in Children and Adults.

There does not appear to be any useful "halfway house" between gargles such as peroxide of hydrogen (two teaspoonfuls of a 3 per cent. solution in a large wineglassful of cold water) or phenol sodique on the one hand, and enucleation of the tonsils on the other. Slitting up or cauterising the tonsil crypts, separation of the plica triangularis (circumcision of the tonsil), and the application of caustic pastes have not found much favour. Reports on the results of X ray treatment are decidedly adverse. Before operating, the patient's mouth should be rendered as aseptic as possible; in adults especially the teeth should be attended to before the tonsil operation. All specialists have felt the difficulty of determining in many cases whether the condition of the tonsils was such as to call for enucleation. Indiscriminate enucleation has brought the operation into some disrepute. An opinion should not be given during or immediately after an attack of coryza. Conservative treatment—e.g., nose washes, inhalations, and gargles—should be prescribed and the child seen again later. There are seldom any indications for enucleation before the age of 3 or 4 years, though adenoids may have to be removed in infants. (Tonsils should not be enucleated merely because adenoids are being removed. If the tonsils become greatly enlarged and give trouble after the adenoid operation they can be dealt with later.)

The old operation of tonsillotomy, or, more correctly, partial tonsillectomy, has been abandoned by almost all specialists in Anglo-Saxon countries because it was so often followed by recurrence of tonsillitis and even peritonsillar abscess. The question, therefore, of the choice of operation resolves itself into a dispute as to the respective merits of the guillotine and the dissection methods. Some hold that practically all tonsils can be enucleated with the guillotine, while others believe that dissection is the only correct procedure. Most surgeons, however, find that each method is suited for certain cases—i.e., that in practically all children, certainly in those who have not been previously operated upon, the tonsils can be entirely enucleated with a suitable guillotine. In only a few cases, where the tonsils are adherent to the surrounding structures, do they require to be dealt with by the dissection method under a general anæsthetic. It is true that in a very small proportion of cases the enucleation is not quite complete—a piece of the upper or lower pole being left; this error can, as a rule, be rectified with the guillotine if it is discovered before the child comes out of the anæsthetic. In adults, on the other hand, the dissection method, with the aid of local anæsthesia, is to be preferred. Such cases have very often had one or more attacks of peritonsillar abscess which have given rise to adhesions and render the operation difficult.

It is a mistake to say that only specialists should enucleate tonsils. The truth is that *only those who can should do the operation*. A man or woman with sufficient manual dexterity, who has held the post of house surgeon or clinical assistant for six months in an ear and throat department, is quite competent to perform the Whillis-Sluder operation or to enucleate by the dissection method.

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Special Articles.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Action against a Medical Man.

AN action was heard in Dublin last week before Mr. Justice Hanna, in which Miss R. de Cadiz sued Dr. T. G. Moorhead, Regius professor of physic in Dublin University, for damages for assault. She alleged that on Oct. 3rd, 1924, when she was a patient in Monkstown Hospital suffering from severe spinal injury and fracture, the defendant, without her authority or consent, entered the private ward in which she was, and, despite her protests, assaulted her, whereby she was seriously injured in her health. For loss due to inability to attend business she claimed £1000. From the evidence it appeared that Dr. Moorhead, in his capacity of consulting physician to Monkstown Hospital, was invited by Dr. R. de C. Wheeler, one of the medical officers to the hospital, in whose care the plaintiff was, to see her in consultation. He made a physical examination in the presence of Dr. Wheeler and of the matron. The plaintiff declared that the examination was made roughly and without proper consideration. This was denied, not only by Dr. Moorhead, but by Dr. Wheeler and the matron. They stated, moreover, that the lady coöperated with Dr. Moorhead throughout the examination, and that the examination was the routine examination that any physician would make in a case of the kind. Evidence was given by several medical men that the patient had no signs of physical injury to the spine either before or since her examination by Dr. Moorhead, and that in reality she suffered from hysteria. After two days' hearing the jury returned a verdict that "there was no assault," and judgment was given for the defendant with costs. In his charge to the jury, Mr. Justice Hanna stated the law as regards the rights of patients and medical men in an examination. The legal basis, said his lordship, was the consent of the patient. When a patient brought in a doctor there was either an implied or an expressed consent that the doctor should be entitled to do all such acts as he considered reasonably necessary in his opinion, having regard to the state of medical knowledge and his own experience, to discharge his duty in making a diagnosis. But it was always subject to this—that, if he proposed to do any act dangerous or risky or painful to the patient, he should give the patient such information as would enable the patient to give or withhold consent.

The case has drawn attention once again to the great danger to which medical men are exposed in the course of their professional work. In this instance, as the reward of a charitable action, Dr. Moorhead has had to defend himself in the courts for two strenuous days, and has, although the verdict is in his favour, been put, no doubt, to considerable expense. He has the sympathy of all in the annoyance from which he has suffered.

The Medical Register Bill.

The Medical Register Bill (1926) has passed both Houses of the Oireachtas. It carries on the present arrangements for medical registration for six months, or, at the discretion of the Executive Council, for twelve. It is stated that the uncertainty of the situation has had a marked effect upon the number of fresh students entering the medical school in Trinity College, Dublin, this term. The average number entering annually during the ten years before the war was 66. After demobilisation this rose abnormally to an average of 110. When the effect of the after-war conditions passed off, the numbers fell temporarily below the average, as was natural, but in 1924 they rose again to 61, and would probably have been still higher but for the rumours even then current as to the Irish Free State Government's intentions. This year the number has fallen to 35, the lowest since 1892. Further, of the 61 who entered in 1924, six have left to enter other medical schools outside the Free State, and a few students from other years have done the same.

County Galway Board of Health.

Some time ago the County Galway Board of Health, finding itself in financial difficulties, invited all its employees, including its medical officers, to consent to a deduction of 10 per cent. in their salaries. None of the medical officers agreed to the request, and as a matter of fact, only one employee—a dispensary caretaker—agreed to the deduction. The salaries for the last quarter were paid less 10 per cent., and were received as payments "on account." The Board has now been notified by the Department of Local Government and Public Health that the deduction was illegal, and arrangements are being made to obtain an overdraft, so that the Board may meet its liabilities.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Conjunctivitis in Public Baths.

CONJUNCTIVITIS has been frequent in recent years among people bathing in certain municipal swimming baths. The infection is slight in character, and under proper care clears up within a few weeks. Dr. Comberg, of the University Clinic for the Diseases of the Eye, has stated that among 250 swimmers examined by him he discovered ten who were not even aware that they were suffering from an eye disease, and it is evident that ignorance of this kind helps to spread the disease. The epidemic began in 1921, and 416 cases have been recognised; but during the last year energetic measures have been taken in the swimming baths and the disease has entirely disappeared. Dr. Seligmann, head of the laboratory of the City of Berlin, has remarked that sometimes the disease is conveyed by the linen, but more frequently by the water. The virus is unknown, but the municipal authorities have been successful in destroying it, although certain municipal baths are visited sometimes by 1500 persons a day, and overcrowding is very favourable to infection. This success is a result of adding disinfectants to the water, and the continuous influx of chlorine gas has proved particularly efficacious. Chemical and bacteriological examinations of the water were made every three days, and in testing some water which had not been changed for five months it was found that no germs were present. Eradication of conjunctivitis was not the only advantage of the disinfection, for, of course, there is a considerable saving of money if fresh water need not be supplied so frequently, and the price of the individual bath can be considerably reduced.

Medical Publications in Germany.

According to a report of the Medical Publishers' Union there has been a considerable decrease in the number of medical publications of recent years. Apart from periodicals the number of publications in 1908 was 1334; it decreased to 1109 in 1923, and as a result of inflation fell to 827 in 1924. Old books are more frequently reprinted than new ones, because the financial risk of the publishers is less if the books have already gained their reputations. Research work is still flourishing in Germany, but publishers, owing to the general financial position, are unable to risk money on new books unless they can be sure of a demand from the medical public. It is a frequent complaint that German medical books have become extremely expensive, and that their sale has therefore fallen off; but this idea is incorrect. In 1908 the average price of books was M.6·07; in 1925 it was M.9·04. This increase of only 49 per cent. corresponds to the general rise in the price of necessaries. Bigger sales would, of course, permit of cheaper production.

Results of Cæsarean Section.

Before the Berlin Gynæcological Society Dr. Wille reported that in the obstetric department of the Charité Hospital during the last 15 years there have been 357 Cæsarean sections among 28,917 births—that is, 1·2 per cent. of the whole number. The mortality from the operation itself was only 1·4 per cent. 119 of the patients became pregnant again; a second Cæsarean section was necessary in 49 cases; a third in 19 cases; and a fourth in one case. In 13 of the 119 cases in which pregnancy followed the operation there was spontaneous delivery, the duration of labour being on an average 21 hours. In 13 instances other operations became necessary. There were four cases of rupture of the sutured uterus, in three of which the patient was saved by sewing up the wall again. The ruptures were due either to defective suture or to the fact that healing by first intention was not obtained because of the patient's feverish condition.

Post-graduate Lectures by Broadcasting.

Post-graduate lectures by broadcasting are now delivered on the second and fourth Fridays of the month from 8 to 8.45 P.M., as from Feb. 12th. After an introductory address by Prof. K. Adam, honorary secretary to the Institute for Post-graduate Study, the first lecture was delivered by Prof. W. Körte, the present chairman of the German Surgical Association, on Intestinal Obstruction: its Diagnosis and Treatment.

UNITED STATES OF AMERICA.

(FROM AN OCCASIONAL CORRESPONDENT.)

Annual Report of the Surgeon-General.

THE Secretary of the Treasury has transmitted to Congress the annual report of the Surgeon-General of the U.S. Public Health Service for the fiscal year ending June 30th, 1925. The most notable event recorded in the international field is the signing of the pan-American Sanitary Code by 18 of the American Republics. The pact provides for the collection and distribution of information on the prevalence of communicable diseases, and standardises the measures to be taken to prevent their transmission from one country to another. The pan-American Sanitary Bureau will no doubt work in close association with the Health Section of the League of Nations. Both human and rodent plague were detected on board incoming vessels by the quarantine service, but no case of plague was imported. For almost the first time in the history of the service no ship was detained on account of yellow fever. Cases were reported from El Salvador, Central America, from three countries in South America, and from the Gold Coast and Nigeria in Africa. The total world incidence, however, is the lowest yet recorded. At Los Angeles, California, there was an outbreak of pneumonic plague with 31 deaths and 8 cases of the bubonic type with 3 deaths. This epidemic and two epidemics of rodent plague in other parts of the country were controlled by the public health service.

The report states that the firework celebrations on July 4th were responsible for 111 killed and 1030 injured, including 148 blinded in one or both eyes.

Epidemic of Poliomyelitis apparently Milk-borne.

From the City of Cortland, New York, comes the report of an epidemic of poliomyelitis that has been traced to a dairy boy. The facts are of sufficient importance to be given in some detail. On Dec. 7th a boy of 16 who worked on a dairy farm became sick with fever, headache, pain in the back, and some diarrhœa. In spite of progressive weakness in his hands he continued to work until Dec. 11th. On that day he was definitely paralysed in his entire left arm and right deltoid, but succeeded in milking three cows with his right hand. He was seen by a physician on this day who recorded his temperature as 104° F. In addition to milking cows the boy carried milk to the cooler and assisted in filling cans from the cooler, and thus came in contact with practically all the milk produced in the dairy. The City of Cortland has a population of about 15,000 and uses approximately 5700 quarts of milk a day. The dairy above referred to supplies 215 quarts of unpasteurised milk to a dealer in Cortland whose total daily output is 240 quarts. The onset of subsequent cases in Cortland was as follows: Dec. 14th, 1; Dec. 16th, 2; Dec. 18th, 2; Dec. 19th, 1. All of these cases had drunk the suspected milk. It was supplied regularly to the families of four cases; one had drunk it three times daily in a restaurant, and the sixth consumed some of the milk at a gathering that he attended six days before the onset of his illness. Three more cases developed on Dec. 25th; one only had not taken any of the milk, and this one is considered a doubtful case.

Housing and Disease.

Interesting figures bearing on the influence of housing on health have been published by Dr. W. H. Guilfoy, of the New York City Health Department. Infantile mortality varies greatly with conditions. In two crowded negro districts it was between 100 and 120 per 1000 births; in congested east side Italian districts it ranged from 85 to 90; whilst in the Washington Heights area, whose inhabitants are white and reasonably well off (incomes under $2500 yearly), the rate was 48. In this part of the city there are hundreds of new garden apartments, which are well ventilated and well lighted. It is an interesting fact, however, that in two typical Jewish districts, in which overcrowding was as marked as elsewhere, the mortality rate varied from 48 to 52 per cent.—that is, it was actually as satisfactory as that of Washington Heights. The fact that the Jews are eagerly availing themselves of the advantages of public health clinics can hardly explain so unusual a record, and so far as housekeeping is concerned the Jews are no better or worse than their neighbours. Possibly they have acquired a certain degree of immunity after generations of life under such conditions. The average infantile mortality for New York City as a whole was 65 per 1000 in 1925; 72 is considered a fairly good record in the United States, and the rate for New York has halved itself in 20 years. The figures for tuberculosis, needless to say, vary immensely with the conditions of life. In the lower end of New York City proper—that is, of Manhattan Island—the disease is rife. This part includes what is known as the lodging-house district, the Bowery district, and the Armenian and Greek sections, and one of these districts has a death-rate of 11·1 per 1000. The negro quarters are heavily infected, as also are the old tenement dwellings on the west side of the city as far as Fifty-fifth Street, which are chiefly inhabited by Irish, Scotch, English, and Germans. A typical Italian tenement house district has a death-rate from the disease of 1·4 per 1000; a typical negro district with a sprinkling of white people has a rate of 1·8; whilst in one part of the Harlem district the rate reaches 3·1. In the Riverside Drive district, however, the mortality does not reach 0·5 per 1000, and it is even less on Fifth Avenue. These are two of the most fashionable quarters of New York; but the extraordinary thing is that the Jews, in housing conditions as bad as those in which the death-rate is highest, have managed to keep their mortality down to the Riverside Drive figure. The same phenomenon is true of pneumonia. This disease generally takes its heaviest toll where the housing conditions are defective, and especially in those houses in which the heating is unsatisfactory and ventilation poor; a typical Italian district had 2·4 deaths per 1000. Yet the Jews in the crowded east side kept their death-rate from pneumonia far lower than the very rich in Fifth Avenue. Typical Jewish sections had a death-rate from pneumonia of from 0·08 to 0·25 per 1000, compared with 1·3 on Fifth Avenue. It is satisfactory to note that there is no instance of a high death-rate from the more important diseases in districts such as Washington Heights, where all the people live in modern houses, with effective ventilation and sunny rooms.

Public Health Services.

PUBLIC HEALTH IN LOCAL LEGISLATION.

A PRECEDENT means a good deal to those who promote legislation in the form of Local Bills. What Parliament has granted to one locality Parliament will probably not withhold from another. Two or three useful public health precedents are to be found in the Local Acts of 1925. Thus the progressive city of Bradford obtained a power of removing infirm and diseased persons to suitable institutions which, if it were not justified on grounds of health, would seem a grave interference with personal liberty. The power is given by Section 56 of the Bradford Corporation Act of last year. If the medical officer is satisfied that a series of carefully prescribed circumstances exists, he may apply to the magistrates for a removal and detention order. The first of these circumstances is that there is a person who is either (*a*) aged or infirm, or physically incapacitated, or living in insanitary premises, or under insanitary conditions; or else (*b*) suffering from grave chronic disease. The second is that in either case such person should be unable to look after himself properly, or to receive proper attention from those with whom he resides. The third condition is that "thorough inquiry and consideration" should show the necessity of his removal from the premises "in the public interest or in the interests of the health of such person or any person with whom he resides." When the medical officer has certified in writing that the case complies with all three of these conditions, he can go to a court of summary jurisdiction for an order, but there are still further safeguards to the liberty of the subject. All the allegations have to be substantiated before the magistrates by oral proof, and the bench can, if it thinks fit, direct a medical examination by a nominated doctor. The bench can then make an order for removal to a suitable hospital, infirmary, Poor-law or other institution, or other suitable place within or near the city, and for detention for three months. This period can be further extended or the order can be rescinded on application in a proper case. The new power would not authorise the detention of a healthy germ-carrier, but it is perhaps on these lines that Parliament may some day solve that problem too. Under another part of the Bradford Act (Section 68) trial will be given for five years to another innovation in our public health laws. The Infectious Disease (Notification) Act of 1889 is applied to venereal disease in the case of infants under 2 years of age, or in the case of adults who, after being informed by the doctor attending them or by the medical officer that further treatment is necessary in order to effect a cure, refuse or neglect to undergo such further treatment. There is a proviso that no one is to have the right or duty of such notification except a medical practitioner. Amongst other novel clauses in the Local Acts of 1925 is one (Section 104 of the Wolverhampton Corporation Act) which enlarges a medical officer's powers of tracing and preventing milk-borne disease. Where, under a previous Local Act, the medical officer or other authorised person takes a milk sample when inspecting cows, the owner of the cow must give immediate notice in writing to the local authority of the district in which the dairy is situated of any sale, disposal, or removal of the cow during the next six weeks.

These important precedents, which will doubtless be followed elsewhere, are mentioned in the recent report of the Select Committee on Local Legislation. For many years past the Committee has been recommending that a new Public Health Act should be passed which would make generally applicable a number of powers for which hitherto each local authority has had to ask individually and at the expense of promoting a Local Bill. This recommendation of the Committee at last received effect in the year now past. The Public Health Act of 1925 was the result; as, however, it did not receive the Royal Assent until the end of the summer session, it was not passed in time to save the labour and expense of a number of local authorities who were asking separately for the powers which the Act gives generally. The effect of the Act will be visible in the Local Acts of the current year. It will no longer be necessary to insert certain old familiar clauses as to contact with the dead bodies of infectious patients, medical examination of inmates of common lodging-houses, isolation, removal of tuberculosis cases to hospital, or the use of ambulances. It will not be necessary to authorise subscriptions to hospitals, provision of accommodation for hospital officers, lectures on health, or measures for the prevention of blindness. It will not be necessary to go again to Parliament for leave to forbid rag and bone dealers to sell food or toys, or to ask further powers to prevent the contamination of food intended for sale. Other clauses in the adoptive parts of last year's Public Health Act will not need to be demanded by Local Act—powers, for instance, for cleansing verminous articles, premises, or persons, or for dealing with offensive trades, or the nuisance which may arise from the occupation of tents, vans, sheds, and similar structures. The pity is that the Public Health Act of 1925 did not go further. It has converted into general law many important provisions previously of only local operation. But anyone who scans the public health provisions which it is still necessary to include specifically in the Bills which local authorities are presenting to Parliament for sanction in 1926 will see how much yet remains to be done before the country concedes as of general right all the powers which every well-administered locality requires and should possess.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED JAN. 30TH, 1926.

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox 390 (last week 365); scarlet fever, 1901; diphtheria, 1205; enteric fever, 44; pneumonia, 1392; puerperal fever, 69; cerebro-spinal fever, 11; acute poliomyelitis, 7; acute polio-encephalitis, 1; encephalitis lethargica, 61; dysentery, 4; ophthalmia neonatorum, 95. There were no cases of cholera, plague, or typhus notified during the week.

Deaths.—In the aggregate of great towns, including London, there were 2 (1) deaths from enteric fever; none from small-pox; 76 (39) from measles; 8 (4) from scarlet fever; 58 (5) from whooping-cough; 45 (15) from diphtheria; 42 (9) from diarrhœa and enteritis under 2 years of age; and 78 (10) from influenza. The figures in parentheses are those for London itself.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments have been notified: Surg.-Comdrs. H. M. Braithwaite to the *Vivid*, addl., for R.N. Hospl., Plymouth, and as specialist in diseases of ear, nose, and throat; S. W. Grimwade to the *President*, addl., for 21 days' course at R.A.F. Medical Officers' School of Instruction; G. D. G. Fergusson to the *President*, addl., for three months' post-graduate course; and J. H. Burdett to the *Vivid*, addl., for R.N. Hospl., Plymouth, and as specialist in bacteriology. Surg. Lt.-Comdr. A. Craig to the *President*, addl., for three months' post-graduate course.

ROYAL ARMY MEDICAL CORPS.

Maj. W. A. Spong to be Deputy Assistant Director-General at the War Office, vice Maj. and Bt. Lt.-Col. O. W. McSheehy (vacated).

Col. H. G. Martin, late R.A.M.C., retires on ret. pay.

Maj. and Bt. Lt.-Col. G. W. G. Hughes to be Lt.-Col., vice Lt.-Col. and Bt. Col. A. Chopping (promoted).

Maj. F. A. Robinson retires, receiving a gratuity, and Maj. W. R. Galwey retires on retd. pay.

Capt. (temp. Maj.) R. P. Cormack retires, receiving a gratuity, and relinquishes the temp. rank of Maj.

Lt. O. A. Owen-Flood, R.A.R. of O., to be temp. Lt.

ARMY RESERVE OF OFFICERS.

Maj. J. A. G. Burton, late temp. Capt., R.A.M.C., to be Capt., and relinquishes the rank of Maj.

MILITIA.

Capts. A. Picken and J. W. P. Harkness to be Majs.

TERRITORIAL ARMY.

Maj. H. E. S. Richards, having attained the age limit, is retd., and retains his rank with permission to wear the prescribed uniform.

Capt. (Bt. Maj.) J. B. Orr from Supernumerary List, for service with the O.T.C., to be Capt. (Bt. Maj.).

Capt. A. F. L. Shields to be Maj.

Capt. A. R. Laurie (late R.A.M.C., S.R.) to be Capt.

R. N. Craig (late R.A.M.C.) to be Lt.

Supernumerary for Service with O.T.C.—Capt. (Bt. Maj.) J. B. Orr resigns command of the Infantry Unit, Aberdeen University Contgt., O.T.C.

INDIAN MEDICAL SERVICES.

The King has approved the retirement of Lt.-Col. C. M. Mathew.

The services of Major F. A. Barker have been placed temporarily with the Government of Central Provinces, as officiating Inspector-General of Prisons. Capt. B. H. Singh, officiating civil surgeon, Midnapore, to act as Resident Medical Officer, Medical College Hospitals, Calcutta, vice Major N. C. Kapur, granted leave. Lieut.-Col. C. A. Sprawson, professor of medicine, King George's Medical College, Lucknow, to be a member of the United Provinces Medical Examinations, vice Maj. G. T. Burke, resigned.

Obituary.

HUGH RIDLEY PRENTICE, M.B., B.S. LOND., M.R.C.P. LOND.

WE have to record with deep regret the death of Dr. H. R. Prentice on Feb. 3rd at the Seamen's Hospital, Greenwich, at the age of 46.

After spending a period of his school days in Weimar, Prentice went to St. Bartholomew's Hospital for his medical education. After qualification, he was appointed senior resident to the Metropolitan Hospital, and later became resident medical officer to the National Hospital, Queen-square, where he worked for four years. Sir Victor Horsley, for whom he had great admiration, was one of his teachers. Later he was admitted to the membership of the Royal College of Physicians, and was appointed physician to the Belgrave Hospital for Children, physician to the West End Hospital for Nervous Diseases, and assistant physician to the Seamen's Hospital, Greenwich, where his demonstrations and lectures on neurology were highly esteemed by the post-graduate students of the London School of Clinical Medicine. During the years of war Dr. Prentice became an hon. lieutenant in the Royal Naval Medical Service, and was seconded to the Seamen's Hospital as chief administrative medical officer. In this way he continued to keep watch and ward over members of the Mercantile Marine during the stress which they underwent. So devotedly had he spent himself in the service of the sailor, that shortly after the war the board of management of the Seamen's Hospital Society appointed him medical superintendent and retained him as a member of the hon. medical staff. His great administrative capacity was also recognised by his being called to act as dean of the London School of Clinical Medicine. Into all his heavy work he threw himself with great energy, but recurring attacks of acute polyarthritis of obscure ætiology compelled him to limit his activities. Notwithstanding the severity of his illness and the progressive undermining of his constitution, he faced the future with indomitable courage, and continued to carry out his duties whenever opportunity offered. "No one who had the good fortune of being associated with him," writes a colleague, "could fail to recognise that he was a man of outstanding merit and worth. He had inherited great gifts. His father, who died when Prentice was 15 years of age, was an authority on music. To his devoted mother he owed much of his intellectual force and literary knowledge. He was an exceptionally well-read man, and was thoroughly en rapport with German and French literature. He had a profound knowledge of music, and was an expert violinist. He had a remarkably well-balanced, clear-thinking mind, and was a master of lucid exposition. His knowledge of medicine, and more particularly of neurology, was deep; and there can be no doubt that his illness robbed us of one who gave every promise of a great future as a clinician." Dr. Prentice was particularly fortunate in his married life. He leaves a widow and three boys, and it is hoped that his sons will carry on their father's high tradition of service.

WILLIAM EVANS HOYLE, D.SC. OXF., M.R.C.S. ENG.

Dr. W. E. Hoyle, who died at Porthcawl on Feb. 7th, was born at Manchester 70 years ago. As a student at Owens College, Manchester, he had a distinguished career, and in 1874 obtained a junior studentship at Christ Church, Oxford, where he graduated in the Natural Science School in 1877 with first-class honours. Thence he went to St. Bartholomew's Hospital, London, and three years later qualified M.R.C.S. and L.S.A. Not long afterwards he was appointed demonstrator of anatomy at Owens College, where he remained until nominated by the Government as naturalist under Sir John Murray in Edinburgh on the "Challenger" Expedition Commission. This position he held for six years; his special work was to report on the cephalopoda, and his report on them appeared in 1886. In 1889 he was given the post of keeper of the Manchester Museum and ten years later was chosen as the first director of the National Museum of Wales at Cardiff. This post he occupied for 25 years, until in 1924 ill-health compelled his retirement. To his work at Cardiff Dr. Hoyle brought the experience gained at Manchester and an intimate acquaintance with all aspects of museum routine obtained by visiting the chief museums on the continent and in the United States. He was president of the Zoological Section of the British Association at the Leicester meeting in 1907 and was also at one time president of the Museums Association. Besides his work in marine organisms, he translated Leuckhart's "Parasites of Man," and in addition to his great services as director of the National Museum at Cardiff, he took an active part in all Welsh national movements, acquiring a good knowledge of the Welsh language. Dr. Hoyle was twice married and leaves a widow and two daughters.

EDWARD MOLYNEUX, M.B., CH.B. MANCH.

GREAT regret has been caused in Southport by the sudden death, on Feb. 11th at his residence at Little Weston, Cheshire, of Dr. E. Molyneux, in his sixty-first year. Not long ago Dr. Molyneux had been compelled by heart trouble to relinquish his practice in Southport, but had continued to give much time and attention to the work of the corporation, on which he served as a councillor and as vice-chairman of the health committee. The son of the late Mr. Joseph Molyneux, of Walton, he received his early education at Liverpool College, and his medical training at the University of Liverpool, graduating there as M.B., Ch.B. in 1889, and becoming M.R.C.S. and L.R.C.P. in the same year. As a student he gained honours in surgery, histology, physiology, and later he acted as demonstrator in physiology in the medical school. After qualification he held a series of resident appointments at the Royal Infirmary, Liverpool, which gave him wide experience, and this was later increased by his work as visiting physician to the Liverpool Fever Hospital and medical officer under the education committee. In 1892 he took up private practice in Cressington and remained there for nearly 16 years. Then he moved to Southport, where for 18 years more he was in busy practice. He found time, however, to take an active part in municipal affairs and also to keep up his keen interest in Association football; not infrequently it fell to his lot to render aid to injured players. Two of his sons served throughout the war. Both in professional and other circles, the loss of Dr. Molyneux will be greatly felt.

Correspondence.

"Audi alteram partem."

THE MEDICAL PROFESSION AND OSTEOPATHY.

To the Editor of THE LANCET.

SIR,—It is clear that a determined attack is about to be launched by various sects of "unqualified" individuals, including osteopaths, chiropractors, bone-setters, and the like, to ensure State recognition. This attack is well organised and is engineered by many able men who have a strong following in Parliament and who have behind them the powerful and almost unanimous voice of the lay press. As a profession we have incurred the unpopularity of the press because we dislike medical "stunts" and vulgar publicity. The preliminary bombardment has already begun. Let us not confuse osteopathy with manipulative surgery. The latter has "won its spurs," is almost universally recognised, and is practised by many medical men, although formerly left largely to bone-setters, some of whom, such as Sir Herbert Barker, possessed very great ability. These bone-setters never claimed that they could cure every disease under the sun. They kept to their own field wherein, in spite of occasional disasters, they often did good and useful work.

Now the osteopaths make much more extravagant claims, and many of them claim that nearly all disease can be traced to minor displacements of the vertebræ. One can at any rate respect a good bone-setter because he is working upon rational lines, but what are we to think of an individual who claims to cure typhoid fever or tuberculosis, diphtheria or cancer, by manipulating the spine? Such theories are not only untenable, but constitute a grave public danger.

What is our duty as a profession towards this menace? In the first place, we obviously cannot afford to ignore the matter as beneath our notice, but must launch a powerful counter-attack. We must endeavour to educate the public and tell them the truth about osteopathy and manipulative work generally. We shall only weaken our position if we attempt to discredit the undoubted successes that osteopaths and bone-setters sometimes achieve when other methods have failed. Nothing has so harmed our reputation in the past as this refusal to face facts. We must meet these attacks with reasoned argument and a willingness to give credit where credit is due. How are our arguments to be brought to public notice? Much can be done in Parliament provided that our spokesmen marshal their arguments carefully and avoid giving the impression that they are swayed by mere prejudice.

Secondly, we must organise our own press campaign. Statements in the press by individuals are better avoided, but if some such body as the British Medical Association or the British Orthopædic Association would form a committee and draw up an authoritative and dispassionate pronouncement for the press upon the merits and dangers of osteopathy, only good could result. There is one particularly cruel and callous falsehood that the press never tire of asserting—namely, that bone-setters and other unqualified persons possess some special knowledge and skill which is not possessed by legitimate qualified specialists in this field. This calumny must be definitely and finally refuted. Mr. Elmslie most appropriately in a recent discussion pointed out the unfair advantage that bone-setters possess by the publicity that the press allows to their successful results and by the veil that it discreetly draws over their failures. Not long ago perhaps the most famous living bone-setter paid me the great compliment of permitting me to perform a manipulative operation upon his back. I could not help thinking that if this operation had been performed by another bone-setter, the press would have returned with great gusto to the congenial task of decrying professional neglect of bone-setting and of exalting unqualified practice.

Before the osteopaths can hope for State recognition they must bring forward evidence for their theories that will stand thorough scientific investigation. The evidence so far adduced is from a scientific view-point almost worthless. If there be aught of value in osteopathy, it is obvious that it can be most safely practised by persons with a thorough training in and qualification to practise medicine and surgery. It is earnestly to be hoped for the public good that, in this country at any rate, any diplomas or degrees that may be conferred by Colleges of Osteopathy will never be allowed to take the place of those qualifications permitting medical practice sanctioned by the General Council of Medical Education.

I am, Sir, yours faithfully,

A. G. TIMBRELL FISHER, *M.C.*, F.R.C.S. Eng.

Montagu-square, W., Feb. 15th, 1926.

THE TREATMENT OF CANCER WITH LEAD.

To the Editor of THE LANCET.

SIR,—During my recent trip to Europe I had the opportunity of seeing in great detail the work of the Liverpool Cancer Research Committee, especially that aspect of the researches conducted by Prof. W. Blair Bell. Through his kindness and that of the Vice-Chancellor of the University, Prof. J. G. Adami, I not only learned the general principles of the treatment of patients but also became acquainted with the organisation and methods of the interesting research group which has been formed in Liverpool for the study of various aspects of the cancer problem. Some of the facts have already appeared in print but others are not so well known, and I would like to set out the points which seem to me to mark a very important advance in the method of attacking a special problem and one which well might be employed more frequently in similar investigations concerning cancer and other diseases.

In the first place, the funds for the various studies, both chemical and pathological, were, and still are, provided by a group of generous citizens of Liverpool. After the guarantee of sufficient income was obtained, advisory groups were formed, made up from the staff of the various scientific departments of the University and practitioners of eminence both in medicine and surgery. The problem set was to carry on the work already begun by Prof. Blair Bell on the treatment of cancer by intravenous injections of colloidal lead and to see how it could be made most useful. As the preparations first made were weak and unstable, one of the most important problems to be solved was to devise a method by which the concentration and stability of the therapeutic agent could be increased. This being evidently a physico-chemical question, a group under the direction of Prof. W. C. McC. Lewis were put at work and have conducted a large series of investigations resulting in a very considerable improvement along the lines indicated, though as yet the product is so unstable and difficult to prepare as not to warrant the publication of the procedure, for the current practice is not regarded as final and is quite beyond the manipulative skill of the medical practitioner. As yet the lead suspension keeps only for a few days. It is hoped, however, that ultimately a more permanent colloid may be obtained which can then be made available for use in skilled hands. While it is regrettable that all sufferers from hopelessly advanced cancer cannot have the immediate benefits of the treatment, it is obvious that a premature distribution and the inevitable disparagement of so dangerous an agent which would result from the effects of its misuse could only end in a lamentable loss of life among those whom the treatment is designed to help. For in addition to the dangers of an imperfect or inaccurately assayed product it has been found that bad results can scarcely be avoided unless a very elaborate and painstaking study of the patient's general condition is made, so that only those with

a considerable clinical experience in observing patients under lead treatment are able to obtain satisfactory results. When, however, the use of colloidal lead is surrounded with all these precautions the results are highly satisfactory, as the recent paper in THE LANCET by Prof. Blair Bell amply demonstrated.

But another phase of the situation is of very great interest. Not only has the mobilisation of the intellectual forces of the Department of Physical Chemistry contributed greatly to the success of the enterprise, but other groups have found fertile problems for study in various aspects of the work. The result has been not only the production of matter of direct value for the chief problem in hand, but numerous intellectual by-products, so to speak, have been prepared during the course of the main investigation, and these may ultimately lead to improvement in our, at present, very unsatisfactory treatment of lead poisoning and probably aid the solution of other clinical problems. Thus, not only has the situation resulted in what I regard as a remarkable practical achievement in the main problem attacked, which is the treatment of cancer, but the pure science departments of the University have been benefited by an intellectual fertilisation due directly to active interest in fresh and very human problems. We all need to be reminded occasionally that some of the abstruse studies made by the laboratory recluse and buried in technical journals behind a barricade of repellent mathematical formulæ may upon occasion contribute astoundingly to human health and happiness. Such an occurrence as this is a healthy reminder of the importance of the university to the community in which it exists, entirely apart from the benefit derived from direct teaching. From all other aspects I am convinced that both the Cancer Committee and the University of Liverpool should be well satisfied with the results already achieved as showing not only how successful well-coördinated research can be, but how fertile in practical achievement. The future course of the work has been well planned. It is hoped that with the treatment on a working basis the guarantors can gradually be relieved of their financial burden and the committee will be able to derive sufficient funds from the fees of patients taking the treatment to carry on the work. It has been the practice heretofore to turn all fees into the research fund and pay from that fund modest salaries to those who were giving largely or wholly of their time. It is hoped that further development may take place in this direction and eventually result in the accumulation of considerable endowment for permanent support of future investigation.

I am, Sir, yours faithfully,

FRANCIS CARTER WOOD,

Director of the Institute of Cancer Research,
Jan. 19th, 1926. Columbia University, New York.

CHARING CROSS HOSPITAL INSTITUTE OF PATHOLOGY.

To the Editor of THE LANCET.

SIR,—A short time ago I saw in a daily paper an article giving an account of the Charing Cross Hospital Pathological Scheme. From the examples given of the proposed fees the scheme is obviously a charitable one, but no mention was made of any desire to prevent abuse of the charity. I should like to know what means will be adopted to prevent this abuse. The value of the opinion of a pathologist who would consent to such fees, when working for himself, would not amount to much, but when backed by the name of a London hospital the public may be deceived into thinking that they are paying the market value of the best advice. They will notice that, whereas the value of the advice of a physician or surgeon is measured in guineas, that of the advice of the pathologist is measured in shillings. It is stated that the director is to sign all reports. I should like to ask him if he intends to carry out personally all the investigations on which the reports are based. If not he will be in the position of a practitioner who signs medical certificates without examining the patient and may also be liable to be accused of covering unqualified practice.

The whole scheme appears to me to be a disgrace to the hospital and to the University of London for allowing their laboratories to be used for the purpose of undercutting the fees for pathological work. It is quite time that the attention of the General Medical Council was drawn to this and similar schemes so as to determine the position of pathologists who consent to work such schemes. The conduct of such pathologists would appear to be as "infamous" as that of many practitioners who are brought before the Council. Unfortunately, there are many medical men in high positions who regard pathologists as an inferior order of being and who support these schemes for supplying cheap pathological opinions. They adopt a code of ethics when dealing with pathologists different to that which they adopt when dealing with their clinical colleagues. The whole scheme is another example of the contempt with which pathology and pathologists are regarded by our universities and medical schools and by the profession generally.

Dr. Murray has suggested another scheme which the Charing Cross Hospital might usefully adopt, and I venture to suggest two more. Why does not the hospital bring forward a scheme for supplying medical and surgical advice through its honorary staff on terms and for fees similar to those suggested for pathological advice? Why, again, does it not undertake to dispense medicines at prices which would undercut those charges by pharmaceutical chemists?

I am, Sir, yours faithfully,

CHARLES POWELL WHITE.

Manchester, Feb. 15th, 1926.

To the Editor of THE LANCET.

SIR,—Dr. Murray's suggestion that the Hospita for Epilepsy and Paralysis might speculate with a laundering business would not appeal to the hospital committee nor to me, as I have no experience in the management of such a business, except the weekly wave of anger and of sorrow I suffer. The hospital, however, can claim to know something of pathological investigations, it is not competing with ordinary business, and for these reasons I disagree with Dr. Murray.—I am, Sir, yours faithfully,

H. W. BURLEIGH,

Feb. 12th, 1926. Secretary and General Superintendent.

THYROID GLAND AND CALCIUM THERAPY.

To the Editor of THE LANCET.

SIR,—This interesting correspondence evokes old memories of how so many chilblains in pre-war days were certainly cured by calcium lactate. Small doses of thyroid were added only if its use was otherwise indicated. Dr. Drake has probably supplied the correct explanation of the present discredit thrown upon this treatment when he says that only the failures now reach the specialist. I recall the days when my late husband, Dr. T. D. Savill, wrote on the efficacy of calcium chloride, in large doses, for many skin diseases; it should be remembered that where active toxæmia was in operation he found its action was not remarkable.

As regards the other type of case described so clearly by Dr. Barber, girls and women with firm, swollen, blue ankles, I have seen many in hospital and in private practice and have been surprised by the remarkable fact that many of these cases *do not have* chilblains. Some feel quite well and only object to the thick ankles because of the present-day short skirts. The general obesity corresponded in all my cases to the pituitary deficiency type; some presented also some thyroid deficiency, but in lesser degree. In most cases a loaded cæcum or sigmoid flexure was easily detected; in two there was a history of the condition having followed pneumonia; in two it followed rheumatic fever. Treatment is necessarily long, so the majority disappear after slight improve-

ment occurs. I should like to report one who persevered until cured.

Miss C, aged 32, had double pneumonia six years previously, and since then had become stout, with scanty menses and swollen blue legs and ankles. She had large blue breasts, blue extensor upper arms, thick blue ankles, pads on lower chest, abdomen, and thighs; and was easily fatigued. The cæcum was palpable. A catheter specimen revealed *Staphylococcus aureus*. An autogenous vaccine was given, also pituitary extract, and a mild rhythmic sinusoidal current daily to both legs. Improvement at once was noticed. The constipation was treated, a vitamin-containing diet ordered; the pituitary extract by mouth and electricity with a faradic battery were continued at her home for nine months. I saw her frequently during the first three months; during the following six months she carried on alone. During these six months she also took 1/10 gr. parathyroid daily. When I saw her after nine months' treatment she was another woman—the periods were normal, she felt well, the ankles were slim, there were no pads or blueness on limbs or body.

All my other cases with swollen blue ankles began to improve with electricity, pituitary extract, and removal of toxæmia, but were not wise enough to persevere. I do not know if the parathyroid played any part in the cure of the above case, but of its value in varicose ulcers I am convinced. Calcium lactate and ultra-violet light is given as a routine to all my hospital cases; parathyroid is only ordered in obstinate cases. Many of the patients have remarked spontaneously that they dated their first big step forward from the week they began parathyroid.—I am, Sir, yours faithfully,

Devonshire-place, W., Feb. 15th, 1926. AGNES SAVILL.

To the Editor of THE LANCET.

SIR,—I take up the cudgels on behalf of the treatment of chilblains by calcium lactate. At one time I had a large practice among school and college girls, a class largely addicted to chilblains. By the use of this drug prophylactically, those who were prone to bad chilblains remained free, and those who took it for the first time, when attacked by chilblains, found that these cleared up quickly. It is my impression that about 90 per cent. of chilblains can be cured by this method. But the calcium lactate must be taken under certain conditions.

1. On an empty stomach, preferably before breakfast immediately on rising. For prophylaxis, my prescription was three 5 gr. tablets daily on rising, before breakfast, for a week; for treatment, nine daily, three taken one hour before meals.

2. Not in excess. It is said that calcium in excess defeats its own object and I have found this to be so, though I do not understand the raison d'être. For this reason I never give more than 25 5 gr. tablets (one bottle) in six weeks.

In the class of case mentioned by Dr. Barber I must confess to failure. These girls have purple, cold, swollen hands even in summer. If pressure by the thumb be made on the dorsum of the hand to empty the capillary circulation, the return is very much slower than normal. There must be some congenital constitutional failure affecting the peripheral circulation. One finds all stages up to definite Raynaud's disease. I have tried intestinal disinfectants without success, but not iodine as Dr. Barber suggests, and have been reduced to local treatment with massage and electricity to tide them through the winter avoiding bad chilblains.

Whether or no there be calcium deficiency in chilblain patients, surely it is possible that calcium lactate may still act as the final factor in increasing the osmotic pressure of the blood and thus preventing the local effusion in response to a local chill. Also, in girls, after puberty, the calcium content of the blood must vary considerably during the month, having regard to the monthly excretion of calcium. Many patients find that chilblains are more apt to occur round about the menstrual period.

As regards parathyroid in this complaint, I have had very little experience, as I reserve the treatment for cases which do not clear up with calcium lactate only. I am, Sir, yours faithfully,

Walmer, Feb. 8th, 1926. D. C. NASMYTH.

BROMO- AND IODO-PHENOLPHTHALEINS IN CHOLECYSTOGRAPHY.

To the Editor of THE LANCET.

SIR,—As the use of these compounds is so new, I venture to draw attention to the results recently obtained in America with an average dose of 2·5 g. in 2 per cent. dilution in normal saline (*Jour. Amer. Med. Assoc.*, Jan. 23rd, 1926, p. 239). Doses of this strength are less likely to produce violent reactions than the quantities hitherto employed, and will probably give adequate shadows.

I am, Sir, yours faithfully,

W. H. MARTINDALE.

New Cavendish-street, W., Feb. 12th, 1926.

THE TWORT-D'HERELLE PHENOMENON.

To the Editor of THE LANCET.

SIR,—In your issue of Jan. 23rd Dr. Gratia and Dr. Rhodes draw attention to their work on the breaking down of dead bacteria in the presence of living ones. In my last paper in THE LANCET, in which I dealt with this question, I made no mention of their earlier work which was carried out along the same lines. At the time I was unaware of their investigations, and I much regret they were overlooked. The experimental results with saline emulsions obtained by Dr. Gratia and Dr. Rhodes and their conclusions differ from mine. In reply to their criticisms I may say that in carrying out my experiments I did not overlook the question of autolysis, and my view is that autolysis or "isophagy" is not sufficient to explain my results. These convince me that if the experiment is suitably arranged, the lysis of dead bacteria, in the presence of living ones of the same variety, only takes place quickly and to any appreciable extent when the transmissible lysin is also present. However, there is a *possibility* that the "transmissible lysin" never produces lysis directly, but acts by killing the bacteria in such a manner that the autolysins which they contain are enabled to produce lysis, or to assist in this process. There are several simple chemical methods of setting free the autloysins while the bacteria are being killed, and these lysins will partially clear a bacterial emulsion that has been killed by heat without the presence of the transmissible lysin. The manner, however, in which the transmissible lysin acts is a wider problem with which I will endeavour to deal more fully in a paper which I hope to publish shortly.

I am, Sir, yours faithfully,

F. W. TWORT.

The Brown Institution, University of London, Feb. 12th, 1926.

TRANSFUSION OF WHOLE BLOOD.

To the Editor of THE LANCET.

SIR,—The transfusion of whole blood is in many instances one of the most effective measures in the armamentarium of the medical practitioner. It would probably be much more widely practised in this country were it not for a widespread idea that it is both a difficult and dangerous operation. The difficulty of the operation by the citrate method is little greater, provided a suitable donor, than that of the infusion of saline, but both in this country and America warning voices, the latest of which to date is that of Dr. Robert Platt in your issue of Jan. 23rd, are continually being raised against the dangers of this method.

Both at St. Thomas's Hospital and the Wolverhampton and Staffordshire General Hospital I have, in the course of the last five years, been concerned as the selector of a suitable donor in a considerable number of blood transfusions. In every case citrate was used and in no case save one did anything other than benefit result; the one exception was the case of a debilitated patient who suffered from some cardiac distress during the operation as the result of

the too rapid introduction of blood into an enfeebled circulatory system; even in this case nothing in the nature of what is usually known as a "reaction" occurred. As the result of my observations I have been forced to the conclusion that in all cases where "reactions" have occurred after the transfusion of blood by the citrate method they must have been due to faulty technique, which usually means the introduction of an incompatible blood. It is, perhaps, not sufficiently realised that the group agglutinins may and do occur in very different strengths in sera of the same group from different individuals [1]; the same applies to the agglutinable factors of the corpuscles. In THE LANCET of March 25th, 1922, I endeavoured to lay down the precautions which should be taken in performing a grouping test. Briefly, these consist in the use of a grouping serum of high titre, the dilution of the blood to be agglutinated and the microscopical observation of the test over a period of at least ten minutes. In the absence of these precautions it is easy to miss minor degrees of agglutination.

In this connexion it may be pointed out that one or other of the agglutinable factors may be present in certain corpuscles to such a small extent as entirely to escape observation except by absorption methods. This fact became apparent to me in the course of a series of such absorption tests performed by myself some years ago; this means that certain bloods apparently of Groups II. or III. are really of Group I. (Moss). This fact seems to be the explanation of certain anomalies described by Prof. E. E. Glynn at the Liverpool meeting of the Pathological Association in January, 1925, and also of the extensive observations of Guthrie and Huck, though these latter workers attributed their results to the presence of a further agglutinable factor.

Could it only be generally realised what a safe and simple procedure the transfusion of whole blood by the citrate method really is, it would probably find a much more widespread application in this country than it now has, and many cases must be occurring daily in which it is the only measure offering any real hope of the salvation of life.

I am, Sir, yours faithfully,

Wolverhampton, Feb. 14th, 1926. S. C. DYKE.

A PROJECTED NURSING HOME.

To the Editor of THE LANCET.

SIR,—With respect to the leading article on "The Paying Patient" in your last issue, for some weeks I have been trying, at the suggestion of and in consultation with a number of West-end specialists, to establish a nursing home which will be free from many of the defects of existing homes, and will have advantages possessed by few, if any. A house is available offering the following:—

1. High open situation, with free access of air and light; little traffic, no 'buses or trams, and freedom from noise, dust, and smells; and within 15 minutes by car from the West End. Five minutes from a station.

2. Good bedrooms, with magnificent views over open country; a very fine lounge, dining-room, conservatories, and large garden available for convalescents and those not confined to their rooms. Accommodation for about 26 patients would be available to begin with, with ample room for extension.

3. In addition to an up-to-date operating theatre, there will be an X ray plant, apparatus for electrical treatment of all kinds, and a pathological laboratory.

The home would be under the management of a resident medical superintendent who would supervise all details in the interest of the patients, and not subordinate their comfort, &c., to rules and restrictions to secure ease of administration. Charges would not be exorbitant and below the average of existing West End homes.

So far, however, it has been found impossible to secure the necessary capital, amounting to £20,000 to £25,000; it is, of course, undesirable that any of it should be provided by those who would have their patients in the home. All details have been worked out and estimates prepared. A dividend at the rate of 10 to 15 per cent. could be earned, but if the money could be provided by someone who would be content with (say) 6 per cent., a proportionate reduction in fees could be made for the benefit of the patients who needed this. The scheme has been submitted to some very prominent members of the profession and has their approval.

In sending you this letter I fully realise you may find yourself unable to publish all or any of it; but possibly you may know of somebody who would like to investigate it with a view to helping the scheme forward. I am, Sir, yours faithfully,

E. C. PLUMMER.

St. Faith's Nursing Home, Mount Park-road, Ealing, W.
Feb. 15th, 1926.

[1] On Isohæmagglutination, S C. Dyke, Brit. Jour. Exp. Path., June, 1922.

METOL POISONING.

To the Editor of THE LANCET.

SIR,—In August, 1925, a young lady chemist, after a week's extra use of metol, noticed a rash between the fingers "with small, mattery heads," later spreading to the backs and palms of hands, face, and neck, some swelling and irritation, especially of fingers and eyelids. The rash became dry and scaly with cracks on fingers and chin. Various emollient ointments and lotions were tried, but it has recurred at intervals, especially on using metol or even dispensing it, although rubber gloves have been used with some success. I am told that the irritating cause is an impurity in the metol and is chemically akin to the dye used in cheap furs and producing a dermatitis. Perhaps readers of THE LANCET would indicate a line of treatment.—I am, Sir, yours faithfully,

Cowes, I.W., Feb. 12th, 1926. L. P. GIBSON.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the Committee 57 cases were considered and £577 voted to 44 applicants. The following are notes on some of the cases relieved:—

Widow, aged 50, of M.R.C.S. (King's Coll.) who practised in Middlesex and died last year. When the late husband's estate is settled up income will be about £200 a year for herself and three children, 2 boys, 13 and 8 years, and girl of 11. Unable to meet the educational expenses of the children. The Committee made a small grant to render the case eligible for our Guild's assistance with education.

Widow, aged 37, of M.B. Manch. 1908 who practised in Wales and died last April. Left with three children aged 10, 5, and 2 without any income and too ill at present to do anything towards maintenance of self or children. Since husband's death they have been helped by relatives, but the applicant is asking for educational assistance. The Committee made a small grant so that our Guild can deal with the case.

Daughter, aged 70, of M.D. St. And. who practised in Lancashire and New Zealand, and died in 1872. She returned recently from Australia owing to her brother's death. Came home to stay with a married sister in the Midlands, but owing to ill-health she removed further south and is now living in one room. Only income £32 per annum. Very favourable report received about this case. Voted £18 in 12 monthly instalments.

L.A.H. Dublin 1907, aged 47, married, one son aged 14. Six years war service. Sold practice before joining up. Has repeated attacks of malaria. Now unable to find employment. Medical work for the last 12 months brought in £165. Officers' Association granted £15. Has pawned and sold various articles. Voted £7.

Widow, aged 65, of M.R.C.S. Eng. (King's Coll.) who practised in London and died in 1922. Only income is the rent received from a house which brings in about £42 net per annum. Has £30 left from sale of furniture. Lives in one room at 9s. a week. £5 voted by the Committee and application has been made for a grant from the Masonic Benevolent Fund.

Daughter, aged 70, of M.R.C.S. Eng. (St. Bart.'s) who practised in Worcestershire and died in 1872. Used to make a living by teaching small children, but had to give up this to look after her mother who died in 1920. Tries to let a portion of a house but is at present without a tenant. She received £25 from letting and a brother allowed her £27. She has had the O.A.P. since August last year. Rent and rates £58. Voted £9 in 12 monthly instalments.

Widow, aged 37, of L.R.C.P. Edin. 1917 who practised in Wales and died last March. In great trouble as the house and shop where she carries on a small business has been sold, and she will have to vacate the premises in a few months' time. Has one boy aged 12 for whom she asks educational assistance. The Committee handed it over to our Guild to deal with, together with a small grant.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos-street, Cavendish-square, London, W. 1.

CRIMINAL OFFENCES AND PROSTATIC ENLARGEMENT.

A MEDICO-LEGAL DISCUSSION.

AT a meeting of the Medico-Legal Society, held at the rooms of the Medical Society of London on Feb. 16th, Dr. Nathan Raw, the President, occupying the chair, Dr. G. Halliday Sutherland read a paper on Enlargement of the Prostate in Relation to Criminal Offences. He began by giving a detailed description of the anatomy of the gland and the surrounding structures by means of the epidiascope, and showed some illustrations of histological specimens from the prostate of other animals by way of comparison. He indicated the particular direction in which only enlargement of the organ could take place in man—namely, between the neck of the bladder in front and the seminal vesicles behind, the enlargement pushing the bladder in front of it, and giving rise to micturition troubles. He also described the urethroscopic appearances in cases of chronic masturbation. Two-thirds of the prostate consisted of muscle, one-third of gland substance, and its average normal weight was 4½ drachms; it was supplied with motor, sensory, and trophic nerves. Sir Henry Thompson had shown, he said, that after 60 years of age the gland remained of the normal weight in 60 per cent., in 11·6 per cent. there was atrophy of it after that age, and it was enlarged after 60 in the remainder. Nearly half the men in whom the gland was enlarged after 60 had made no complaint in reference to it. The most frequent cause of the enlargement was the development of an adenoma; it was not a true hypertrophy; there was also dilatation present in most. Dr. Sutherland had satisfied himself that the dilatation was secondary to the constriction of the little ducts, the latter due to inflammatory reaction or as part of a general arterio-sclerotic change in the individual.

The earliest symptom noted by the patient was a gradually increasing frequency of micturition, calling first once in the night, later twice. In some cases there was a sudden retention of urine—namely, when the enlarged portion fell over the opening of the urethra, or by an adenomatous growth blocking that channel. In others there was a feeling of weight and discomfort in the perineum, with constipation. This last he attributed to the sensitiveness of the whole area, which led to a deferment as long as possible of the act of defæcation. There was also a dull aching in the back or a sacral pain, which sometimes radiated down the inside of the thighs. Particularly was pain felt on micturition and defæcation. Thirst and a dry skin were other concomitants. In later stages cystitis might develop, pass to the kidneys, lead to pyelonephritis, uræmia, and so to death.

Not much, said Dr. Sutherland, was to be found in literature dealing with the medico-legal aspects of prostatic enlargement, but it was generally agreed that a likely association of this enlargement was the commission of lewd acts, passing on to criminal ones, in persons previously above reproach. He quoted some examples, the persons concerned apparently deriving satisfaction from merely touching the parts or members of the opposite sex. Disease in the sexual area always had a profound effect on the mind, quite out of proportion to that caused by disease in any other part. In cases of the kind under discussion the stimulus might be so urgent that the reader of the paper thought they might well come under the second category of the McNaghten judgment. In most of the criminal cases he thought the wisest course was to get an undertaking from relatives to take care of the guilty person, thus performing a similar function to that carried out by the Procurator-Fiscal in Scotland.

Sir Bernard Spilsbury, who followed, said the principal type of enlarged prostate he had met with in his post-mortem experience was that in which all the elements of the gland were increased in bulk, not only the gland itself, but also the muscle and fibrous tissue which formed the support of the gland. In cases of enlarged prostate removed by operation, adenoma was rare comparatively. In considering the legal side of certain cases of sexual perversion, there was a liability to unduly stress the functions of this gland. In some cases removal of the gland had not cured the abnormal impulses of the individual. Sexual perversion he attributed rather to pressure effects on the sexual organs generally; sometimes there were definite obstructive effects. Moreover, after operation scar tissue formed, and the contraction of this might again be a source of irritation.

Dr. Graham Grant, speaking as a police surgeon, said he had been present at the trial of many persons brought up before the courts accused of committing indecent exposure, and declared that a large number of these offences occurred in public urinals. A common defence when men were stated to have remained there unduly long was that they were engaged in adjusting their truss, and he asked whether the pressure of a truss would cause sufficient sexual irritation to lead to offences of the kind under discussion.

Dr. M. I. Finucane spoke of the detailing of plain-clothes officers to watch out for cases referred to by the last speaker, and incidentally mentioned that in the West End particularly offences in lavatories were quite common. He elaborated the legal rights possessed by persons so charged to see a doctor, their own if they so desired.

Lord Riddell said he considered it a dangerous doctrine to give evidence of an enlarged prostate as a defence. Life consisted of a series of coats of varnish, and 60 seemed to be about the age when those varnish coats reached their zenith. They were either good or bad coats. Men who had hitherto led a good and wholesome life became at that age nice respectable old gentlemen; but those whose lives up to that stage could not be so described now suffered for their previous conduct; their minds became a kind of cesspool, and they gave evidence of that in their repulsive acts. Nothing had been mentioned in the discussion as to women. There was no prostate gland in women, yet self-exposure by women of various ages was not uncommon. Probably the rapid sequel in women showing this abnormality was to take them to an asylum. In all these matters it was necessary to proceed on broad lines, and if the various suggestions made as to special treatment of these perverts were carried out, society would soon get into a disorganised state. His own feeling was that men who committed the kind of offences under discussion should be severely punished. Usually they were exceedingly cunning and were quite aware of the crime they were committing, but were difficult to catch. He hoped that nothing which had been said in the discussion or in the paper would lead to these people being examined by police surgeons and in that way escaping their just treatment.

Further points made in the ensuing discussion were, that most of the elderly men accused of these acts showed some signs of senile dementia, and some of them when examined did not show an enlarged prostate. These acts, which were not committed by all possessors of an enlarged prostate, might be one of the earliest signs of a state which later might become certifiable. Another point made was that in these old men the acts in question represented the final flickerings of a sex passion which, nevertheless, was not equal to the performance of the normal sexual act. The urge was still there periodically, but the response was only partial, and the manifestations of it were accordingly bizarre. An aspect which was only once touched on was that of finding a consenting party of the opposite sex, and one speaker alluded to a case in which a middle-aged woman stated on her card that she showed special patience with old men.

Dr. Sutherland dealt in his reply with a number of the points raised in the discussion.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At an ordinary meeting of the Council of the College on Feb. 11th, Sir John Bland-Sutton, the President, in the chair, Sir D'Arcy Power was re-elected a representative of the College on the Council of Queen Victoria Jubilee Institute for Nurses.—The President reported that Prof. Sir Arthur Keith's remaining three Hunterian lectures, which had been postponed, would be given on Monday, Feb. 22nd, on the Taungs Anthropoid: its Zoological and Geological Position; Wednesday, Feb. 24th, on Fossil Anthropoids of Europe and of Asia; and on Friday, Feb. 26th, on the Kivu Gorilla and its Bearing on the Problems of Human Evolution.—Letters were read from Sir Charles Ballance and Mr. James Sherren resigning their seats on the Council, such resignations to take effect at the end of the College year in June.—The President reported that a meeting of the Fellows would be held at the College on Thursday, July 1st next, at 2.30 P.M., for the election of four Fellows into the Council in the vacancies occasioned by the retirement in rotation of Mr. Walter G. Spencer and Mr. Ernest W. Hey Groves, and by the resignation of Sir Charles Ballance and Mr. James Sherren; that notice of the meeting would be given to the Fellows by advertisement and by circular on March 5th; that March 15th would be the last day for the nomination of candidates; and that a voting-paper would be sent on March 30th to every Fellow of the College (except women Fellows) whose address is registered at the College.—Diplomas of Fellow were conferred upon Dr. Harold Burt-White (St. Bart.'s) and Dr. Alan Cameron Maconie (St. Bart.'s), who had previously passed the requisite examinations and have now attained the age of 25 years.—Diplomas of Member were conferred upon 179 candidates (144 men and 35 women) who have passed the requisite examinations and have complied with the by-laws. The following are the names and the medical schools of the successful candidates:—

P. W. A. Agnew, St. George's; N. A. Arnold, Guy's; A. Ashworth, Liverpool; A. L. Banks, Middlesex; C. M. Barker, Cambridge and Univ. Coll.; L. H. Belcher, Guy's; R. J. I. Bell and S. B. Benton, St. Bart.'s; S. Bernstein and M. Bomze, Univ. Coll.; Elsie Boyton, King's Coll.; R. Broomhead, Leeds; A. Byrne-Quinn, St. Thomas's; Irene F. Callender, St. Mary's; A. L. Canby, St. Thomas's; De L. Carey, St. Mary's; S. Chazen, Guy's; R. Childs, Cambridge and St. Thomas's; J. H. Chitty, Oxford and Guy's; J. H. Clapp, London; A. Clark, St. Bart.'s; G. C. W. Clarke, Sheffield; H. N. Collier, Guy's; Violet H. Comber, Univ. Coll.; R. V. Cooke, Bristol; W. F. Cooper, Cambridge and St. Bart.'s; A. R. Cox, Guy's; S. T. Davies, Univ. Coll.; T. W. Davies, Cardiff; T. E. Davies, St. Thomas's; Hilda C. Dean, Charing Cross; A. E. de Fonseka, Ceylon and King's Coll.; May W. de Livera, Ceylon and Royal Free; G. C. Dewes, Cambridge and St. George's; H. V. Dicks, Cambridge and St. Bart's; Mary G. H. Dickson, King's Coll.; Margaret H. Duncan, London; G. H. Dymond, St. Bart.'s; Elaine O. H. Earengey, Univ. Coll.; R. W. B. Ellis, Cambridge and St. Thomas's; D. C. M. Ettles and J. Evans, Guy's; B. Fink, Manchester; C. W. Flemming, Oxford and Univ. Coll.; T. D. W. Fryer, Cambridge and St. Thomas's; S. W. Gabbe, Cape and St. Thomas's; S. C. Gawne, Liverpool; P. Gibbin, Cardiff; Dorothy Godden, St. Mary's; P. J. Gonsalves, Guy's; A. P. Gorham, Bristol; Agnes H. Gray, Royal Free; D. P. Gray, Middlesex; Margaret K. Green, St. Mary's; W. H. Green, Middlesex; C. R. M. Greenfield, St. Bart.'s; L. A. N. Greenway, Calcutta and King's Coll.; B. J. Griffiths, Cardiff; A. A. M. Groot, Leyden and Westminster; A. Gross and F. P. Guilfoyle, St. Bart.'s; K. H. Hadley, Melbourne and Middlesex; R. N. Hall, Cambridge and St. George's; C. W. Harrison, Los Angeles and St. Bart.'s; L. Hartston, London; H. G. Harvey, St. Thomas's; J. P. Helliwell, St. Mary's; T. R. Hill, Guy's; R. L. Holt, Manchester; B. B. Hosford, St. Bart.'s; Mary H. M. Huggett, King's Coll.; N. C. Hypher, London; D. E. Iago-Jones, Cardiff and Middlesex; R. J. Isaac, St. Mary's; G. L. C. Jones, Cardiff and St. Bart.'s; T. Jones, Cardiff; J. Kahanas, Berne and London; J. A. Kerr, Birmingham; R. H. Knight, St. Bart.'s; P. H. Knowles, St. Mary's; T. P. Lalonde, Bristol; F. J. L. Lang, St. Mary's; F. W. Law, Cambridge and Middlesex; D. F. Lawson, Cambridge and St. Thomas's; R. J. L. Le Clezio, St. Thomas's; Anne T. Leigh, Manchester; E. A. Lewis, St. George's; R. A. V. Lewys-Lloyd, St. Bart.'s; Leonora M. K. Lines, Charing Cross; T. M. Ling, St. Thomas's; Edith M. Little, Royal Free; G. F. H. McCormick, Univ. Coll.; G. L. M. McElligott, Oxford and St. Thomas's; L. J. McGregor, St. Thomas's; Evelyn T. D. Maclagan, St. Mary's; A. J. McMillan, Middlesex; P. Malpas, Liverpool; Ruth E. Mansfield, Westminster; Mary A. Marshall, St. Mary's; I. O. Martin, Cardiff; S. R. Matthews, Cambridge and Middlesex; H. R. R. Mavor, St. Thomas's; W. Mayne, Guy's; M. S. Mazhar and S. Mellins, Middlesex; R. H. Metcalfe, Cambridge and St. Thomas's, G. C. Milner, Cambridge and London; J. Mintzman, Middlesex; F. E. Montague, St. Thomas's; P. Morton, London; M. Mundy, St. Bart.'s; D. L. P. M. Q. Mylechreest, St. Thomas's; C. B. Nicholson, Middlesex; J. R. P. Norman, Birmingham; G. F. Oakden, Cambridge and St. Thomas's; E. J. O'Keeffe, J. E. J. Palser, and C. H. Parker, London; G. E. G. Peirce, St. Mary's; H. A. Picton, Birmingham; H. P. Pieris, Madras and Middlesex; N. R. Pooler, St. Mary's; W. G. Porter, Guy's; D. C. Price, St. Bart.'s; Winifred E. Probert, Cardiff and Westminster; D. M. Pryce, St. Mary's; Muriel A. Pugh, Charing Cross; F. W. F. Purcell, Cape and St. Thomas's; J. H. Randall, Cambridge and Univ. Coll.; Marjorie D. Reddan, Royal Free; Margaret G. P. Reed, King's Coll.; H. G. St. M. Rees, Cardiff; J. L. Reeve, St. Bart.'s; A. M. Rhydderch, Cambridge and London; O. Richardson, St. Bart.'s; L. Roberts, Middlesex; Victoria A. Roberts, Royal Free; D. J. L. Routh and Audrey E. Russell, Univ. Coll.; J. W. Schabort, Guy's; Gitta Schewel, Hamburg and Westminster; F. L. G. Selby, St. Mary's; T. H. Sellors, Oxford and Middlesex; D. W. Seth-Smith, St. George's; A. de M. Severne, Cambridge and St. Thomas's; W. D. Sheldrake, Guy's; H. J. A. Simmons, Cambridge and Middlesex; W. S. Slater, Manchester; E. V. Slaughter, Middlesex; Beatrice G. Smith, Univ. Coll.; L. G. Smith, St. Bart.'s; H. B. Stallard, Cambridge and St. Bart.'s; C. A. Stanley, St. Thomas's; B. L. Steele, Univ. Coll.; A. F. H. Stewart, Guy's; R. K. Stockbridge, Adelaide and London; Dorothy S. Tait, Cambridge and St. Mary's; G. M. Tanner, Cambridge and St. Bart.'s; Constance P. Thomas, Cardiff; D. W. R. Thomas, Cardiff and Middlesex; R. Thorpe, St. George's; G. O. Tippett, St. Thomas's; R. S. Tooth, Cambridge and St. Bart.'s; Rose A. H. Traill, Charing Cross; R. M. Walker, Univ. Coll.; L. H. F. Walton and H. D. Weatherhead, St. Thomas's; Janet Welch and Violet M. Weston, Royal Free; E. A. White, St. Bart.'s; J. E. B. Williams, Univ. Coll.; J. H. Williams, Cardiff; H. Williamson, King's Coll.; D. B. Wilson, Cambridge and Birmingham; Jessie Wiltshire and Ada R. Winter, Univ. Coll.; J. Wiseman, Guy's; Joan Worsfold, Royal Free; and Dorothy E. Wright, Univ. Coll.

A series of six museum demonstrations, open to medical practitioners and advanced students, is to be given in the theatre of the College by Sir Arthur Keith and Mr. C. E. Shattock on Mondays and Fridays, from March 12th to 29th inclusive, at 5 P.M. The subjects of the demonstrations will be stated in our Medical Diary of the appropriate weeks.

HUNTERIAN SOCIETY.—The Hunterian Oration, of which the subject will be the Relation of the General Practitioner to Preventive Medicine, will be delivered by Sir George Newman, at 9 P.M. on Monday, Feb. 22nd, in the Mansion House, by kind permission of the Lord Mayor of London.

Hunterian Society Dinner.—Dr. Howard Humphris, the President, took the chair at the annual dinner of this Society held at the Hotel Victoria on Feb. 11th. There was a large gathering of Fellows and their guests, amongst whom were the Lord Mayor of London, the Bishop of Kensington, Sir Philip Richardson, M.P., Sir Anthony Hope Hawkins, and Sir Holburt Waring. In proposing a toast to the memory of John Hunter, the President touched on what he termed the lighter side of his life. In his youth Hunter had been "a bit of a lad." "They wanted," he had said, "to send me to the university to learn Latin and Greek and make an old woman of me; but I crushed their ideas like so many vermin." Later he had attained some notoriety as a resurrectionist, and again by driving a team of buffaloes through London. Could that be done to-day, asked the President, or would it be called advertisement? Sir Philip Richardson, proposing the toast of the Society, said that he had never thought that there was much in medicine, but there was a lot in doctors. All the same they were at present the bane of politicians; for the chief cause for anxiety to-day was not the birth-rate, but the death-rate, and the profession ought not to be allowed to invent so many ways of keeping people alive. In reply, the President said that the Society had come through bad times. A few years ago the average attendance had fallen to eight; it was now 80. There were 250 Fellows on the roll and some of the names were the proudest in the profession. The Society was not living in vain. John Hunter, he thought, would not be ashamed of it; he might even offer it his congratulation. Mr. T. H. Openshaw, proposing the toast of "The Lord Mayor," recalled the intimate connexion between the Society and the City. In reply, the Lord Mayor referred to the medical work which was done on behalf of the Corporation as perhaps the most valuable part of those widespread activities of which he was proud to be the temporary representative. Dr. W. Langdon-Brown dealt wittily with the guests in turn, welcoming especially the President's father; the Society had been a mere stripling of 16 summers when the President's father was born 90 years ago. The Bishop of Kensington, replying for the guests, told several admirable stories, as also did Sir Anthony Hope Hawkins, who feared that a tyranny of doctors was developing. Even now medicine was infringing on all other professions, such as the Church and the Law, with its theories and discoveries—perhaps more theories than discoveries. But as they were strong so let them be merciful. "Englishmen of our generation," he said, "like to kill ourselves as we please." Sir Holburt Waring regretted

that politicians should insist on the survival of the unfit. Perhaps they should pay more attention to the well-being and survival of the fit. He described the recent press campaign against the General Medical Council as a fine study in mass psychology. Sir Bruce Bruce-Porter paid a high tribute to the Chairman, who briefly replied and proposed a toast to the hon. secretaries, Mr. Mortimer Woolf and Dr. Arthur Westerman, to which Mr. Woolf responded. In the intervals between the speeches there were old-fashioned (and very popular) songs by Mr. Lyell Johnston, and Mr. Joseph Batten was successful at the piano in rousing genuine singing from his cheerful audience.

GLASGOW UNIVERSITY CLUB DINNER.—The annual dinner of the Glasgow University Club, London, postponed from Dec. 4th last, will take place at the Trocadero Restaurant, Piccadilly, on Friday, Feb. 26th, at 7.15 for 7.30 P.M. precisely. The chair is to be taken by Sir Henry Craik, Bart., K.C.B., LL.D., M.P., and Sir Martin Conway, F.R.G.S., M.P., will respond to the toast of The Guests. Any Glasgow University men who, though not members of the club, would like to attend are requested to communicate with the hon. secretaries, 62, Harley House, N.W. 1.

TUBERCULOSIS SOCIETY.—A meeting of this Society will be held to-day, Friday, Feb. 19th, at 8 P.M., at the house of the Society of Medical Officers of Health, 1, Upper Montague-street, Russell-square, London, W.C., when Dr. C. Nicory will read a paper on Tuberculosis in Japan.

OPTICAL SOCIETY.—At the annual general meeting of this Society, held at the Imperial College of Science, on Feb. 11th, the following officers and members of council were elected for the session 1926–27: President: T. Smith, M.A. Vice-Presidents: Inst. Comdr. T. Y. Baker, R.N., B.A.; F. F. S. Bryson, M.A., B.Sc.; R. S. Clay, B.A., D.Sc.; and H. H. Emsley, B.Sc. Treasurer: Major E. O. Henrici, R.E., F.R.A.S. Secretaries: Prof. Alan Pollard, A.R.C.S., A.M.I.E.E., and F. F. S. Bryson, M.A., B.Sc. Librarian: J. H. Sutcliffe, O.B.E. Editor: John S. Anderson, M.A., D.Sc., Ph.D. Members of Council: D. Baxandall, F.R.A.S., A.R.C.S.; W. M. Brett; W. B. Coutts, M.A., B.Sc., F.R.S.E.; A. H. Emerson; E. F. Fincham; J. Guild, A.R.C.S., F.R.A.S.; E. T. Hanson, B.A.; H. C. Raxworthy; J. Rheinberg, F.R.M.S., F.R.P.S.; G. F. C. Searle, Sc.D., F.R.S.; W. Swaine, B.Sc.; and F. C. Watts.

THE LATE DR. F. A. COWARD.—Dr. Frank Augustus Coward, who died on Feb. 5th at his home at Wolverhampton, at the age of 75, at one time had one of the largest practices in Huddersfield. He was a son of the late Dr. J. E. Coward and received his medical education at Aberdeen and Edinburgh, where he took the Scottish triple qualification in 1877. Soon afterwards he joined his father in practice, and eventually succeeded him. About 20 years ago he sold his practice and left Huddersfield for Wolverhampton, where he took an active interest in public life and was prominently identified with the Mothers' and Babies' Welfare Association movement. He was twice married and leaves a widow, two sons, and two daughters.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—On Feb. 25th, at 5 P.M., a lecture will be given on Some Points in the Treatment of Tuberculosis of the Uro-genital Tract by Mr. Frank Kidd in the lecture room of the Medical Society, 11, Chandos-street, London, W. 1. This will be free to all members of the medical profession.—On the same date Mr. L. B. Barrington-Ward will give a special demonstration in clinical surgery at the Royal Northern Hospital, at 2 P.M., at which all members of the Fellowship and holders of its general course tickets will be welcome.—The following courses will be continued throughout the week: A course in general medicine and surgery at the Queen Mary's Hospital, Stratford; clinical instruction in venereal disease at the London Lock Hospital; and a combined course in diseases of children at the Paddington Green, Victoria Hospital (Chelsea), and Children's Clinic.—During the first fortnight of March there will be a special post-graduate course of demonstrations at the Royal Eye Hospital, the sessions being daily from 3 P.M.—In the early part of March the Westminster Hospital will give a special course in bacteriology.—In the last three weeks of March the Chelsea Hospital for Women will hold a course in gynæcology, including operations, lectures, and demonstrations; and during the last two weeks the Brompton Hospital will hold an all-day course in diseases of the chest.—For the benefit of practitioners with only limited free time, the Hampstead General Hospital will hold a course in general medicine and surgery from 4.30 to 6 P.M.—The Tropical School will begin a course of two sessions weekly on March 16th.—Copies of all syllabuses, of the general course programme, and of the *Post-Graduate Medical Journal*, may be had on application to the Secretary of the Fellowship at 1, Wimpole-street, London, W. 1.

SOCIOLOGICAL SOCIETY.—Sir Francis Younghusband will take the chair at a meeting of the society to be held at the rooms of the Royal Society in Burlington House, Piccadilly, London, W., on Tuesday, Feb. 23rd, at 8.15 P.M., when Dr. Binnie Dunlop will speak on the Malthusian Principle and Sociology.

CHADWICK PUBLIC LECTURE.—A lecture on the Activated Sludge Process of Sewage Treatment will be given by Mr. H. T. Calvert, D.Sc., of the Ministry of Health, in the lecture hall of the Institution of Civil Engineers, Great George-street, Westminster, on Friday, Feb. 26th, at 8 P.M.

ROYAL INSTITUTION.—On Feb. 23rd, at 5.15 P.M., Prof. Joseph Barcroft will give the second of three lectures on the Egg, and on Feb. 26th at 9 P.M. Mr. C. Hagberg Wright, LL.D., will deliver an address on Nicolas de Peiresc and His Circle.

PEOPLE'S LEAGUE OF HEALTH.—Amongst newly elected medical councillors to the League are Sir Thomas Horder, Sir Stanley Hewett, Sir Ronald Ross, Sir Henry J. Simson, Dr. F. N. Kay Menzies, and the medical officers of health for Bradford, Manchester, Leeds, Glasgow, and Liverpool.

Dr. E. Graham Little, M.P., has been elected a Corresponding Member of the Danish Dermatological Society, and of the Royal Society of Medicine of Budapest. He has also been made an honorary member of the Italian Society of Dermatology and Syphilography.

DONATIONS AND BEQUESTS.—Among other bequests the late Mrs. Emma Pratt, of Leam-terrace, Leamington, left £1000 to Hereford General Hospital; £100 to the Hereford City Nursing and Maternity Society; £1500 to the Municipal Charity Trustees, Hereford, for charities under their control; and £200 to the Royal Midland Counties Home for Incurables, Leamington.

THE LATE DR. J. F. STRICKLAND.—After a long illness Dr. John Fletcher Strickland died at Halifax on Feb. 5th in his fifty-second year. He took his medical degree at Edinburgh in 1896, and held house appointments at Liverpool and Wakefield. Then he moved to Halifax and was amongst the first local medical men to join the Army at the outbreak of war. Unfortunately, his service undermined his health, and though he returned to practise at Booth Town he never regained his strength. Dr. Strickland was of a genial sympathetic disposition, and won many friends amongst his colleagues and patients and in his private life.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, ST. ANDREWS.—On Feb. 9th Dr. L. H. Bryson read a paper on the Functional Unit and Reflex Processes, in which he criticised the prevailing teaching that certain reflex activities are controlled by centres, maintaining that in all cases control from the periphery is the only factor regulating them, apart from psychical influence. In a previous communication he had elaborated this view in regard to the cardiomotor and vasomotor reflexes. The functioning of the organs of the body, he said, was regulated according to the requirements of its functional units. The physiological unit consisted of the cell with its capillary supply. The latter could only be efficiently regulated by the cell. The activities of heart and arteries must be determined by the needs of the functional units and be regulated by them; impulses from these peripheral structures must, therefore, determine the activities of the so-called cardiomotor and vasomotor centres. The "centre" was, in fact, nothing more than a focus of integration for impulses received from the functional units at the periphery. The continued belief in specific centres was largely due to the difficulty of demonstrating afferent tracts. This principle of peripheral control acting *through* the central nervous system was incompatible with control *by* the central nervous system, and this applied to all reflex processes. For a reflex to be modified in its course implied that it was imperfect in its design. Discussing the rôle of sensation, Dr. Bryson maintained that between the sensory and motor areas of the cortex there were intermediate neurons upon which sensation arose and conditioning occurred upon the reflex processes. This he termed psychical integration. Elliot Smith had shown that, as evolution advanced, the sensory and motor areas increased in size, but that it was not to these areas that the brain of man chiefly owed its size, but rather to the part interposed between them. Dr. Bryson emphasised the clinical importance of the study of the relationship of reflex processes to sensation and of the psychological problems involved. The paper gave rise to an animated discussion in which Prof. David Morrison and others took part.

UNIVERSITY OF CAMBRIDGE.—The Pinsent-Darwin Studentship in Mental Pathology has been allotted to Dr. R. D. Gillespie, of Cassel Hospital, for research into functional nervous disorders during the next three years.

UNIVERSITY OF LONDON.—A course of three lectures on Some Principles of Therapeutics will be given by Prof. D. Murray Lyon at St. Thomas's Hospital Medical School on Feb. 22nd, 23rd, and 24th, at 5.30 P.M. At the first lecture the chair will be taken by Prof. H. MacLean, D.Sc.

A course of four lectures on Active and Passive Immunity will be given by Dr. R. A. O'Brien at University College Hospital Medical School on March 1st, 5th, 8th, and 12th, at 5 P.M. At the first lecture the chair will be taken by Prof. A. E. Boycott, F.R.S.

A course of three lectures on Hygiene will be given in English by Dr. Gustave Monod at the Middlesex Hospital Medical School on March 2nd, 3rd, and 4th, at 5.30 P.M. At the first lecture the chair will be taken by Sir Arthur Newsholme. Admission to all these lectures is free, without ticket.

Mental Deficiency.—A course on Mental Deficiency, for medical practitioners, is to be held at the University, Imperial Institute-road, South Kensington, S.W., from May 31st to June 5th. It has been arranged by the University of London Extension Board, in coöperation with the Central Association for Mental Welfare, and is intended more especially for those who are engaged as certifying officers to local authorities under the Mental Deficiency Act, 1913, as school medical officers, as medical officers of institutions, or for any who are definitely concerned with defectives. The course will be based on the requirements of the syllabus for the University's diploma in psychological medicine, and a certificate of attendance will be granted to those who have taken the whole course, including theoretical and practical work. Amongst the lectures will be seven by Dr. A. F. Tredgold on Mental Deficiency, three by Dr. F. C. Shrubsall on Administrative Procedure in the Ascertainment and Treatment of the Mentally Defective, two by Prof. Cyril Burt, D.Sc. on the Psychology of Mental Defectives, and one on Crime and Mental Defect by Dr. Norwood East. The clinical work will consist of visits to special schools and residential institutions in or near London and demonstrations by experts to small groups of students of individual cases of mental defect. The fee for the course, apart from a registration fee of 10*s.* 6*d.*, will be £2 12*s.* 6*d.* No applications will be entertained after May 10th, and it is desirable that they should be sent in as soon as possible if arrangements are to be made convenient for everyone. The Board of Control is prepared to consider applications from local authorities for contributions towards reasonable expenses incurred in sending medical officers to the course. Forms of entry may be obtained from Miss Evelyn Fox, c/o University Extension Dept., University of London, South Kensington, S.W. 7.

Amendment of Regulations on University Titles.—The first paragraph of Section A 2 of the Regulations on University Titles (Calendar for 1925–26, p. 226) was amended to read as follows:—Whole-time Posts: The guaranteed minimum salary for a University professor giving his whole time to the work of his post shall be £1000 per annum, and the guaranteed minimum salary for a reader giving his whole time to the work of his post shall be £500 per annum; provided that in exceptional circumstances the guaranteed minimum salaries may be not less than £800 and £400 respectively. Part-time Posts: If the duties of the post do not take up the whole time of the occupant the guaranteed minimum salaries for a University professor and University reader shall be £500 and £250 respectively; provided that in exceptional circumstances the guaranteed minimum salaries of part-time posts may not be less than £400 and £200 respectively.

University of London, University College.—Fourteen entrance scholarships and exhibitions are available for award to students entering University College in October, 1926. Three of them are tenable in any of the five College Faculties, and three are tenable in the Faculty of Medical Sciences only. Most of the scholarships and exhibitions are of the value of £40 a year for three years, but their value may be increased by supplementary bursaries if the circumstances of the scholar or exhibitioner make such a grant necessary. Further particulars may be obtained from the Secretary, University College, Gower-street, W.C. 1.

WE regret to announce the death at Cambridge on Feb. 16th of Dr. Meredith Blake Robson Swann, demonstrator in pathology in the University and Fellow of Gonville and Caius College. It is stated that ten days previously Dr. Swann, who was 32 years of age, pricked his finger whilst making a post-mortem examination.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Unqualified Medical Practice.

IN the debate last week on a motion by Dr. LITTLE, to inquire into the whole position of irregular practice in medicine and surgery, Colonel SINCLAIR'S remarks were interrupted by a motion for adjournment of the House. Substantially Colonel SINCLAIR said this:

"As the only member of the General Medical Council in this House, perhaps I may be allowed to make a few observations. The General Medical Council has been blamed, not only inside the House, but outside and in the Press, for many of its decisions. I think that many who have criticised it in a hostile sense have not taken the trouble to consider its mode of procedure, how the cases come before it, and how members receive and weigh the evidence and come to a decision. Moreover, its clemency is much greater than many Members of the House understand. Many of those who are deprived of diplomas are only deprived for one year or thereabouts, and, if not guilty of the offence again, they are reinstated in many cases within the year.

"The General Medical Council does not proceed against osteopaths and chiropractors. It really cannot recognise them, because it has no means of inspecting their skill. It has no means of understanding or estimating the nature of the education furnished or the standards of education and examinations which they take. It would not be in the public interests to take the American diplomas at their face value. Many of these are granted by organisations some of which are of a proprietary nature and are not recognised in the United States. It would be hazardous to include all these practitioners in the general register unless there was some provision made for inspecting the colleges, the nature of the instruction given, and of the examination passed.

"In the case of dentists, when the country some years ago was flooded by a large number of unqualified men, the Dentists Act of 1921 was passed for the protection of the public. It was then made, with great severity, a penal offence to practise dentistry unless the name of the dentist was on the Dental Register. Therefore, it appears to me to be right in the public interest that there should be an inquiry respecting the persons entitled to practise medicine and surgery, including manipulative surgery and plastic surgery, lest great damage should be done to the suffering public by unqualified people carrying out manipulative surgery with great energy and even rough handling. Practitioners who desire to practise manipulative surgery should provide a guarantee that they have been properly instructed in the anatomy of the human body, physiology and pathology, so that they would be able to distinguish those patients to whom they ought not to apply manipulative surgery, and who ought to be treated by other means. It ought to be borne in mind that the General Medical Council does not put a veto on the class of practice which its registered members may adopt. All that it requires is that they shall have been trained in medicine, surgery, and midwifery. They may practise manipulative surgery, homeopathy, or other forms of service provided they show that they have graduated at some recognised institution, and that they have a thorough knowledge of anatomy, physiology, and pathology.

"The General Medical Council is a much maligned body. It has been suggested that it ought to be reinforced by the addition of lay members. We have no objection to the addition of lay members. The machinery exists already for their introduction. If the Privy Council would use its power of nomination for the purpose of placing lay members on the General Medical Council, it is quite within its competence to do so. Moreover, the universities of the Kingdom might send lay professors to the Council instead of medical members. That is within their competence. The difficulty is that people cannot be got to take an intelligent interest in the work of the General Medical Council unless they are medical men, because three-fourths of the work of the Council has to do with medical education and registration. It is difficult for the laity really to understand and to keep a sustained interest in the regulations of the medical curricula and the medical examinations.

"Much has been said with respect to the cures effected by the bone setters. I do not deny that the manipulative surgeons have done good work, but the general medical profession have done equally good work."

New Midwives' Legislation.

The Bill to amend the Midwives Acts and for other purposes, introduced by Lieut.-Colonel FREMANTLE in the House of Commons on Thursday, Feb. 11th, is in two parts. It provides (*a*) for the better control of unqualified midwives, for decreasing the deficit in the funds of the Central Midwives Board, which is due to the inclusion in

the roll of midwives published annually of the names of large numbers of women who for one reason or another are not practising; for the payment of compensation to midwives who are suspended from practice through no fault of their own; for fixing a time limit for the rendering of claims for fees by medical practitioners called in by midwives on emergencies; and certain other purposes; and (*b*) for the registration and inspection of maternity homes by the councils of counties and county boroughs. The Bill is supported by Major J. W. HILLS, Mr. ARTHUR GREENWOOD, and Sir HENRY SLESSER.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 10TH.

Treatment of Encephalitis Lethargica.

Mr. AMMON asked the Minister of Health whether the arrangements made between his department, the London County Council, and the Metropolitan Asylums Board for the treatment of encephalitis lethargica cases was for medical care only.—Sir K. WOOD replied: My right hon. friend assumes that the hon. Member is referring to the arrangements made by the Metropolitan Asylums Board for the institutional treatment of children suffering from the mental after-effects of encephalitis lethargica. These arrangements provide for the ordinary hospital accommodation of the patients and all necessary treatment and medical care.

Mr. AMMON asked the Minister of Health whether his attention had been called to the case of a young man who was charged with theft at the Lambeth police-court on Jan. 5th last, and was found to be suffering from the after-effects of encephalitis lethargica; and whether, in view of the increase of such cases, he would take steps to consider ways and means of providing adequate treatment and training for the victims of this and other brain troubles?—Sir K. WOOD replied: The answer to the first part of the question is in the affirmative. As regards the second part, the question of the best means of providing for such cases as that mentioned is receiving careful consideration by the department concerned.

Mental Condition of Juvenile Offenders.

Mr. AMMON asked the Home Secretary what was the standing or qualifications demanded of medical men engaged in prisons and remand homes to examine and report as to the mental condition of juvenile offenders brought before the magistrates.—Sir W. JOYNSON-HICKS replied: At places of detention to which young persons under 16 are remanded medical attendance is usually afforded by a doctor in general practice, but where mental trouble is suspected the case might be referred to a school medical officer or other specially qualified doctor. Offenders over 16 are remanded to prisons where the medical officers are experienced general physicians and surgeons of good qualifications, with special experience of insanity and mental deficiency. I may add that the medical examination of young offenders is being considered by the committee which I appointed last year to inquire into the treatment of young offenders.

THURSDAY, FEB. 11TH.

Artificial Limbs.

In reply to questions by Mr. T. HENDERSON, Mr. PARKINSON, and Mr. WHITELEY on the supply of artificial limbs to ex-Service men,

Major TRYON, Minister of Pensions, said: The present arrangements for the supply of artificial metal legs are working quite satisfactorily and I am not prepared to reconsider them. The few cases in which representations are made for a special make of limb not covered by the present contracts are considered by a board of surgeons constituted for the purpose, and where necessary, in accordance with their advice, arrangements are made for the supply of an artificial limb similar to that previously used by the man though not covered by the present contract.

Indecent Literature.

Sir N. GRATTAN DOYLE asked the Home Secretary whether he had received complaints from members of the medical profession and others regarding the transmission through the post of descriptive and illustrated circulars advertising various kinds of contraceptives; whether the Public Prosecutor had been consulted with reference thereto, and, if so, with what result; whether he would say if existing legislation was sufficient to protect the public against the effects of this traffic; and what steps he proposed to take in order to deal with it.—Sir W. JOYNSON-HICKS replied: Yes, Sir. I have received numerous complaints and the Director of Public Prosecutions has given the subject close attention in conjunction with my department. He has taken, and will continue to take, action in cases which appear to him to involve a contravention of the law, but the success of such proceedings depends upon the magistrates being satisfied that the postal matter complained of is in fact indecent, and I am afraid that the divided state of opinion on the subject of birth control has been to some extent reflected in the decisions given. I know of no further steps which I could usefully take.

Birth-rate and Birth Control.

Sir N. GRATTAN DOYLE asked the Minister of Health whether, in view of the progressive decline in the birth-rate of this country, he could give the percentage birth-rate during last year and the same rate for the principal countries in Europe.—Mr. N. CHAMBERLAIN replied: The following is the information asked for. As the 1925 birth-rates for foreign European countries are not yet available, the figures asked for are given for the most recent years for which information has been received:—

Birth-rate per 100 Population.

England and Wales (1925)	1·83	Switzerland (1924)	1·87
Ditto (1924)	1·88	Netherlands (1924)	2·52*
Sweden (1924)	1·81*	Belgium (1924)	1·99
France (1924)	1·89	Spain (1924)	2·99*
Finland (1924)	2·24	Hungary (1924)	2·68
Germany (1924)	2·04*	Czecho-Slovakia (1924)	1·95*
Denmark (1923)	2·54	Austria (1923)	2·25*
		Italy (1923)	2·93

* Provisional.

Small-pox in Durham.

Mr. LANSBURY asked the Minister of Health how many cases of small-pox had occurred in the county of Durham since the present outbreak started down to the week ending Feb. 6th, showing the number of cases each week; how many deaths, if any, had taken place; would he give the names of the towns, districts, and villages where the outbreak was most severe; and what steps he had taken to discover the cause of the outbreak and the reasons which had led to so rapid a spread of the disease.—Mr. N. CHAMBERLAIN replied: The total number of cases of small-pox which have been notified in the county of Durham from Jan. 1st, 1925, to Feb. 6th, 1926, is 1966. In two instances small-pox was entered on the death certificate as one of the causes of death. Numerous visits have been paid to the affected districts by medical officers of my department for the purpose of advising and assisting the local authorities, and their officers and their reports indicate that the outbreak may be attributed to the spread of the disease from other infected areas and that the present prevalence is in large measure due to the neglect of vaccination and in some districts to the lack of adequate hospital accommodation. The following is a statement showing the number of cases notified each week during the period from Jan. 1st, 1925, to Feb. 6th, 1926, and the names of the towns and districts where the disease is most prevalent:—

1925: Week ended Jan. 24th, 1; 31st, 3; Feb. 7th, 2; 21st, 2; 28th, 1; March 7th, 1; 14th, 2; 21st, 21; 28th, 2; April 4th, 8; 11th, 8; 18th, 8; 25th, 6; May 2nd, 7; 9th, 10; 16th, 4; 23rd, 4; 30th, 3; June 6th, 2; 13th, 4; 20th, 8; 27th, 11; July 4th, 19; 11th, 43; 18th, 17; 25th, 20; Aug. 1st, 7; 8th, 18; 15th, 9; 22nd, 8; 29th, 10; Sept. 5th, 9; 12th, 11; 19th, 12; 26th, 12; Oct. 3rd, 10; 10th, 11; 17th, 23; 24th, 29; 31st, 42; Nov. 7th, 37; 14th, 49; 21st, 46; 28th, 70; Dec. 5th, 80; 12th, 86; 19th, 119; 26th, 104.

1926: Week ended Jan. 2nd, 98; 9th, 138; 16th, 139; 23rd, 177; 30th, 182; Feb. 6th, 213.

No cases were notified for the weeks ended Jan. 3rd, 10th, and 17th, and Feb. 14th, 1925, respectively.

The areas where the disease is most prevalent are: Gateshead C.B., Blaydon U.D., Chester-le-Street U.D., Whickham U.D., South Shields C.B., Auckland R.D., Chester-le-Street R.D., Easington R.D., Houghton-le-Spring R.D., Lanchester R.D., Sunderland R.D., Spennymoor U.D.

Mr. BATEY: Is the right hon. gentleman aware that the districts that are the worst affected are the districts where the men have been most impoverished?

Mr. CHAMBERLAIN: No, Sir; I do not think so.

Commander WILLIAMS: Can the right hon. gentleman say what percentage of these cases have been vaccinated?

Mr. CHAMBERLAIN: I cannot answer that without notice.

Mr. LANSBURY: Is it not a fact that in the county of Durham just now in all the districts poverty is very prevalent, and is it not a proved fact that disease attacks people whose physique is lowered through want of food?

Mr. CHAMBERLAIN: I think it would be very difficult to draw any safe deductions from the figures in my possession, but they certainly do not bear out the suggestion made the other night that the cessation of poor relief in a particular union was the cause of the special prevalence of disease in that union, seeing that in that particular union the prevalence of disease is considerably less than in an adjoining union where there has been no such cessation.

Mr. LAWSON: How does the right hon. gentleman account for the fact that in the areas where there has been most unemployment the outbreak of small-pox is most prevalent?

Mr. CHAMBERLAIN: Possibly there has been less vaccination there.

Physique and Health of Air Force Recruits.

Mr. HORE-BELISHA asked the Secretary of State for Air (1) how many men were accepted in the year 1925 for His Majesty's Air Force, and how many were rejected on account of some physical deficiency; and (2) what percentage of applicants were rejected for the Air Force in 1925, and what the principal defects were, giving the proportions to the total number of rejections.—Sir S. HOARE replied: The number of men passed fit for service in the Air Force was 2885; the number rejected as medically unfit was 3414, or a percentage of 54·19 of those medically examined. The principal causes of rejection as revealed by examination by Service medical officers were as follows:—

	Per cent.		Per cent.
Defective teeth ..	13·0	Diseases of lungs ..	8·4
Diseases of the heart* .	12·4	Defects of vision ..	7·3
Poor physique.. ..	9·5	Defects of extremities..	2·3
Diseases of the ears ..	8·8	Other causes	30·0
Deformities of feet ..	8·6		

* Valvular disease or disordered action.

Salt on Snowy Streets.

Sir ALFRED BUTT asked the Minister of Health whether his department had conducted investigations into the effect on the health of the public from the use of salt on snowy streets; how long the resultant liquid remained below the freezing point of water; and whether any representations had been made to local authorities on the subject.—Mr. N. CHAMBERLAIN replied: The model by-laws issued by my department for the prevention of nuisances require, when salt is thrown upon snow on a footway, the resultant product shall be removed as soon as possible. These by-laws have been adopted by a large number of local authorities. I understand that no investigation has been conducted by my department on the particular point mentioned by my hon. friend, and I am advised that it would be most difficult to devise experiments from which reliable conclusions could be drawn.

Naval Leave in Small-pox Areas.

Mr. BROMFIELD asked the First Lord of the Admiralty why Fleet orders had been issued giving a recapitulation of the restrictions in regard to leave for officers and men proceeding to any town or district in which an outbreak of small-pox has been notified, seeing that all the officers and men in question had been vaccinated at least once, and many of them several times, since joining the Service.—Mr. DAVIDSON replied: Restrictions in regard to leave for officers and men in districts where small-pox is prevalent are necessary in view of the fact that, although every reasonable precaution is taken to ensure the protection of every individual in the Navy against this disease by vaccination, there still must be a certain proportion unprotected, either by oversight or on the grounds of conscientious objection, to which must be added recent entries who have not yet undergone protection by vaccination. In addition, H.M. dockyard employees are not under the same control as naval personnel as regards vaccination, and consequently a large proportion of them are non-immune, and as naval personnel and these employees are intimately associated, infection might be carried either by a person in the early stages of small-pox or by the clothing of one who has been recently in contact with a case. It is considered that no precaution should be neglected to prevent a case of small-pox occurring in one of H.M. ships or establishments, as, apart from the menace to health, there is the question of the great expense incurred in isolation and destruction of clothing, bedding, etc., necessary owing to the highly infectious nature of this disease. In addition, there is the inconvenience and expense of keeping all contacts of a case in isolation and under observation for 14 days.

Midwives and Maternity Homes Bill.

Lieut.-Colonel FREMANTLE presented a Bill to amend the Midwives Acts 1902 and 1918, and to provide for the registration of maternity homes. The Bill was read a first time.

MONDAY, FEB. 15TH.

Board of Lunacy Control.

The House went into Committee of Supply on a supplementary estimate for £26,660 for the salaries and expenses of the Board of Control (Lunacy and Mental Deficiency) in England, and for grants in respect of maintenance of certain ex-Service mental patients and certain damages and costs in a legal action.

Mr. PETHICK-LAWRENCE called attention to the sum of £2800 which appeared in the estimate in respect of the case of Harnett *v.* Bond. In this case, he said, the plaintiff, Mr. W. S. Harnett, brought an action against Dr. Bond, a Commissioner of the Board of Control, and another, on the ground of alleged wrongful imprisonment as a lunatic. He was released according to the statement of the medical officer of the asylum on 28 days' leave. He found that his brother was in charge of his property and went to the Board of Control to have the matter investigated. While he was there he interviewed a member of the Board, Dr. Bond, who detained him and sent him back to the asylum, where he remained in custody for eight years. The jury, after hearing the case, awarded £25,000 damages against Dr. Bond and £5000 against the medical officer of the asylum. On appeal the Court of Appeal ordered a new trial as between the plaintiff and Dr. Bond. The plaintiff appealed against this judgment to the House of Lords who dismissed the appeal. At this stage the Board of Control offered a sum of £250 as damages and £2500 in respect of plaintiff's costs. After negotiations this offer was accepted. The case was a serious one, as this unfortunate man had not merely suffered eight years' detention as a lunatic when he was sane, but he had also spent a sum of over £25,000 to obtain his rights. The taxpayers who had had to pay the sum of £3000 or £4000 already, was now called upon to pay a further sum of £2800.

Sir KINGSLEY WOOD (Parliamentary Secretary to the Ministry of Health), in reply, said he thought that the hon. Member had been wholly misinstructed as to the facts of the case. He (Sir K. Wood) intended to be very guarded in his reply, as he understood that Mr. Harnett had brought another action in the King's Bench Division against the doctor who gave the first certificate of his insanity.

Mr. SHORT asked the Chairman (Mr. Hope) if it was right for the Committee to discuss the matter, seeing that it was again to be brought into court. He suggested that the vote should be withdrawn pending the final decision of the case.

Sir DOUGLAS HOGG (Attorney-General) said it was possible to discuss the vote, which was necessary to carry out the arrangement come to in the first action, without touching on the issue in the forthcoming case.

The CHAIRMAN said that in the circumstances it would be better to withdraw the vote until later to allow him to consider the situation, as he would not like to rule on the matter right off in case it might be made a precedent.

The vote was postponed accordingly.

The Dentists Act.

Mr. BARNES asked the Prime Minister whether he was aware that Section 5 of the Dentists Act, 1921, was operating in such a manner as to exclude corporate bodies of working-class constitution whose boards of management did not include qualified dentists from supplying dental service to their members; and whether he would introduce legislation which would remove this exclusion.—Sir K. WOOD replied: My right hon. friend understands that there is nothing in this Section, as interpreted hitherto, to prevent any coöperative society or similar body from arranging for the dental treatment of its members, provided it does not seek any profit in so doing; and he cannot see any necessity for amending legislation.

Training of Midwives in Scotland.

Captain WEDGWOOD BENN asked the Prime Minister whether he had considered the possibility of extending to Scotland the provisions for grants in aid of the training of midwives, laid down in Mem. No. 102, M.C.W., issued by the Ministry of Health.—Sir JOHN GILMOUR (Secretary of State for Scotland) replied: I have considered the question of extending to Scotland the provisions for grants in aid of training midwives, but I have not seen my way to make representations to the Treasury on the subject, because there is no actual or prospective shortage of midwives in Scotland.

Small-pox and Vaccination.

Sir WILLIAM DAVISON asked the Minister of Health whether he could give the House any information as to the progressive increase of small-pox in this country since the war; and whether such increase coincided with a like increase in the number of persons who were not protected by vaccination.—Sir K. WOOD replied: The number of cases of small-pox in England and Wales has increased from 311 in 1919 to approximately 5300 in 1925. My right hon. friend has no information as to the number of persons who are not protected by vaccination, but there can be little doubt that it has been steadily increasing since the war, although it is generally found that considerable numbers of persons present themselves for vaccination when any serious outbreak of small-pox takes place.

TUESDAY, FEB. 16TH.

Grants to Maternity Institutions.

Mr. NEIL MACLEAN asked the Secretary for Scotland the amount of grant paid to English maternity institutions; whether any similar grant was paid to similar institutions in Scotland; and, if not, whether, in view of the new regulations which come into force in Scotland on May 1st, 1926, increasing the cost and extending the period of

maternity nurses, he would make representations to the Treasury for a proportionate grant to be made to Scottish maternity institutions.—Sir J. GILMOUR replied: With regard to the first part of the question I would refer the hon. Member to the Minister of Health. As regards the second part, under the Maternity Service and Child Welfare schemes in Scotland, no payments of grant are made directly to maternity institutions, but where a local authority has made approved arrangements to a voluntary institution, or itself provides an institution, the approved cost ranks against the maternity and child welfare grant. In reply to the last part of the question, as the hon. Member is doubtless aware, the whole question of the finances of voluntary hospitals in Scotland has been the subject of a remit to a special committee whose report I have just received.

Miners' Nystagmus.

Mr. WILFRID PALING asked the Secretary for Mines the number of coal-miners certified as having nystagmus in each of the years from 1921 to 1925 inclusive.—Colonel LANE-FOX replied: The number of certificates of disablement given by certifying surgeons was: In 1921, 1986; in 1922, 4047; in 1923, 4050; in 1924, 3446. The figures for 1925 have not yet been compiled by the Home Office.

Sir H. BARNSTON, on behalf of the Home Secretary, also replied: The number of new cases of miners' nystagmus for which compensation was paid under the Workmen's Compensation Acts in each of the years 1921 to 1924 was as follows: 1913 in 1921; 4092 in 1922; 3883 in 1923; and 3271 in 1924. The figures for 1925 are not yet available.

Lead Paints Protection Bill.

Lieut.-Colonel HENDERSON asked the Home Secretary whether he proposed to reintroduce the Lead Paints Protection Bill this session.—Sir W. JOYNSON-HICKS replied: I hope to reintroduce this Bill very shortly.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY, Feb. 22nd.—8 P.M., ODONTOLOGY. Mr. F. Coleman: An Ivory Exostosis of the Mandible Simulating a Tooth. Sir Frank Colyer: Abnormal Teeth from the Region of the Premaxilla.

TUESDAY.—5.30 P.M., MEDICINE, ELECTRO-THERAPEUTICS, SURGERY, AND LARYNGOLOGY. Dr. L. S. T. Burrell, Dr. Stanley Melville, Mr. J. E. H. Roberts, and Mr. Somerville Hastings: Open discussion on the Diagnosis and Treatment of Intrathoracic New Growths.

WEDNESDAY.—5.15 P.M., COMPARATIVE MEDICINE. Dr. P. H. Manson-Bahr: The Relation of Wild Animals to Certain Diseases of Man. Discussion opened by Dr. Andrew Balfour.

THURSDAY.—8.30 P.M., UROLOGY. Prof. Hugh MacLean: The Testing of Renal Function and the Treatment of Renal disease. Discussion.

FRIDAY.—4.30 P.M., STUDY OF DISEASE IN CHILDREN. Clinical Meeting at Paddington Green Children's Hospital, W. 8 P.M., EPIDEMIOLOGY AND STATE MEDICINE. Dr. M. Greenwood and Prof. W. W. C. Topley: Experimental Epidemiology: Some General Considerations.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY, Feb. 22nd.—8.30 P.M., Discussion on the Ætiology and Diagnosis of Gall-stones, to be introduced by Sir Humphry Rolleston, Bart., followed by Mr. R. P. Rowlands and Dr. Robert Knox.

WEDNESDAY.—9 P.M., Dr. E. Farquhar Buzzard: Principles of Treatment in Relation to Diseases of the Nervous System. (Second Lettsomian Lecture.)

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES, 11, Chandos-street, Cavendish-square, W.

FRIDAY, Feb. 26th.—8.30 P.M., Papers will be read by Sir Thomas Horder and Dr. F. W. Price on Syphilis of the Heart and Aorta, more Especially the Early Signs and Symptoms. A discussion will follow.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn-fields, W.C.

MONDAY, Feb. 22nd.—5 P.M., Sir Arthur Keith: The Taungs Anthropoid: Its Zoological and Geological Position.

WEDNESDAY.—5 P.M., Fossil Anthropoids of Europe and of Asia.

FRIDAY.—5 P.M., The Kivu Gorilla and its Bearing on the Problems of Human Evolution.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

FRIDAY, Feb. 26th.—4 P.M., Mr. Harold Kisch: Frontal Sinus Disease and its Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C. 1.

POST-GRADUATE COURSE: FEBRUARY–MARCH, 1926.

CLINICAL LECTURES AND DEMONSTRATIONS.

MONDAY, Feb. 22nd.—2 P.M., Out-patient Clinic: Dr. Hinds Howell. 3.30 P.M., The Neuro-Muscular System, I., The Action of Muscles: Dr. Kinnier Wilson.

TUESDAY, Feb. 23rd.—2 P.M., Out-patient Clinic: Dr. Walshe. 3.30 P.M., Treatment of Head Injuries: Mr. Armour.

THURSDAY, Feb. 25th.—2 P.M., Out-patient Clinic: Dr. Kinnier Wilson. 3.30 P.M., Neuro-syphilis, I.: Dr. Riddoch.

FRIDAY, Feb. 26th.—2 P.M., Out-patient Clinic: Dr. Adie. 3.30 P.M., Surgery of the Peripheral Nerves: Mr. Sargent.

The fee for the Course, including Pathology lectures, is £5 5s. For those who hold Perpetual Tickets the fee is £3 3s.

Mr. Armour and Mr. Sargent operate at the Hospital on Tuesday and Friday mornings at 9 A.M., or at such other times as may be announced.

Any part of the Course may be taken separately. Special arrangements will be made for those unable to take the whole Course.

Fees should be paid to the Secretary of the Hospital at the Office on entering for the Course.

J. G. GREENFIELD, Dean of Medical School.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, Feb. 22nd, to SATURDAY, Feb. 27th.—Fellowship of Medicine lecture, at the Medical Society, 11, Chandos-street, W. Thursday, 5 P.M., Mr. Frank Kidd: Some Points in the Treatment of Tuberculosis of the Uro-Genital Tract. Free to members of the medical profession. Special Clinical Surgery Demonstration, at Royal Northern Hospital, at 2 P.M., by Mr. L. B. Barrington-Ward.—QUEEN MARY'S HOSPITAL, Stratford, E. Special Post-graduate Course in General Medicine and Surgery. Operations, Surgical Demonstrations, Medical Demonstrations, Lectures, and Demonstrations in the Special Departments. Daily 10–5 P.M.—LONDON LOCK HOSPITAL, Dean-street, W. Clinical Course. Instruction daily in the O.P. Department.—COMBINED CHILDREN'S COURSE, Paddington Green Hospital, Victoria Hospital (Tite-street, Chelsea) and the Children's Clinic (Cosway-street, N.W.). Morning and afternoon sessions daily. Further information from the Secretary of the Fellowship of Medicine.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.

WEDNESDAY, Feb. 24th.—Dr. Harrison: Tests of Pancreatic Efficiency.

THURSDAY.—4 P.M., Mr. O. L. Addison: Some Surgical Infections of the Kidney.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone-road, N.W.

THURSDAY, Feb. 25th.—5 P.M., Mr. L. H. S. Williams: Acute Abdominal Pain in Pregnancy.

ROYAL DENTAL HOSPITAL OF LONDON SCHOOL OF DENTAL SURGERY.

WEDNESDAY, Feb. 24th.—5.30 P.M., Mr. J. G. Turner: Biological Factors of "Regulation."

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.

THURSDAY, Feb. 25th.—4.15 P.M., Dr. Charles Singer: The History of Small-pox (last of four lantern lectures, open to medical students of the University of London).

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY, Feb. 22nd.—10 A.M., Surgical Out-patients: Mr. W. E. Tanner. 10.30 A.M., Gynæcological Operations: Mr. A. E. Giles: Throat, Nose and Ear Operations: Mr. W. Ibbotson. 2 P.M., Medical, Surgical, and Gynæcological Clinics, Operations. 6.30 P.M., Venereal Department.

TUESDAY.—2 P.M., Medical, Surgical, Throat, Nose and Ear Clinics, Operations. 4.30 P.M., Dr. W. Jenkins Oliver: Some Skin Diseases of Childhood.

WEDNESDAY.—10.30 A.M., Surgical Operations: Mr. E. Gillespie. 2 P.M., Medical, Eye, and Skin Clinics, Operations. 5.30 P.M., Venereal Department.

THURSDAY.—10.30 A.M., Dental Out-patients: Mr. E. S. Pierrepont. 2 P.M., Medical, Surgical, and Throat, Nose and Ear Clinics, Operations. 5 P.M., Operations.

FRIDAY.—10.30 A.M., Eye Operations: Mr. N. Fleming. 2 P.M., Surgical, Medical, and Children Clinics, Operations. 3 P.M., Gynæcological Clinic. 6.30 P.M., Venereal Department.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester-square, W.C.

TUESDAY, Feb. 23rd.—5 P.M., Dr. J. H. Sequeira: Tuberculosis Cutis (2).

THURSDAY.—5 P.M., Dr. Wilfrid Fox: Cutaneous Syphilis (1).

UNIVERSITY OF SHEFFIELD POST-GRADUATE CLINICS.

TUESDAY, Feb. 23rd.—3.30 P.M. (at the Jessop Hospital), Mr. King: Some Gynæcological Difficulties.

FRIDAY.—3.30 P.M. (at the Royal Infirmary), Prof. Mellanby: Some Points in Clinical Therapeutics.

ST. MARY'S HOSPITALS, MANCHESTER, POST-GRADUATE LECTURE.

FRIDAY, Feb. 26th.—4.30 P.M. (at Whitworth-street West Branch), Dr. D. Dougal: The Indications for the Induction of Labour and the Methods Employed.

Appointments.

CAMPBELL, J. G., M.D. R.U.I., has been appointed Medical Officer of Health for Saltcoats.

CREASY, R., Junr., L.R.C.P. Lond., M.R.C.S., Senior Medical Officer to the Bengal and North Western Railway.

KENNEDY, T. D., M.B., Ch.B. Edin., District Medical Officer (Medical Referee) to the Scottish Board of Health.

SHERA, A. G., M.D., B.Ch. Camb., L.R.C.P. Lond., M.R.C.S., Pathologist (Part-time) to the East Sussex County Mental Hospital, Lellingly, Sussex.

SOOTHILL, V. F., M.D., B.Ch. Camb., D.P.H., Medical Officer of Health to the City and County of Norwich.

St. Thomas's Hospital: SOUTAR, K. A., M.B., B.S. Lond., CHIESMAN, W. E., M.B., B.Ch. Cantab., MILLER, A. K., M.R.C.S., L.R.C.P. Lond., EDWARDS, J. L., M.B., B.Ch. Cantab., LENNANE, G. A. Q., M.R.C.S., L.R.C.P. Lond., MILLER, N. A., M.R.C.S., L.R.C.P. Lond., WALTER, A. G., M.R.C.S., L.R.C.P. Lond., TRIM, E. A., M.R.C.S., L.R.C.P. Lond., Casualty Officers and Resident Anæsthetists; TOMPSON, B. E., M.B., B.Ch. Oxon., THOMSON, G. W. R., M.B., B.S. Lond., REES, W. E., M.B., B.S. Lond., DE JERSEY, G. W. S., M.B., B.Ch. Cantab., Resident House Physicians; GIBBENS, J. H., M.R.C.S., L.R.C.P. Lond., Resident House Physician for Children; WRIGLEY, A. J., M.B., B.S. Lond., BARRETT, J. C., M.B., B.S. Lond., CRAWFORD, D. P., M.B., B.S. Lond., DOBIE, J. M., M.B. B.Ch. Cantab., JACOBSON, J. N., M.R.C.S., L.R.C.P. Lond., GREY, J. C. P., M.R.C.S., L.R.C.P. Lond., NICHOLSON, H. W., M.R.C.S., L.R.C.P., Lond., Resident House Surgeons; HEATH, W. E., M.R.C.S., L.R.C.P. Lond., BOGGON, R. H., M.B., B.S. Lond., Obstetric House Physicians; SAUNDERS, K. G. W., M.R.C.S., L.R.C.P. Lond., COVERDALE, H. V., M.B., B.Ch. Cantab., Ophthalmic House Surgeons; NEILSON, D. F. A., F.R.C.S. Eng., AMESUR, C. A., M.R.C.S., L.R.C.P. Lond., CANBY, A. L., M.R.C.S., L.R.C.P. Lond., WALFORD, A. S. H., M.B., B.Ch. Cantab., F.R.C.S. Eng., BARRON, H. T., M.D., Lond., COOPER, G. K., M.B., B.Ch. Cantab., THORNTON, F. S., M.R.C.S., L.R.C.P., MARRINER, H. I., F.R.C.S. Edin., BUCKLEY, C. B., M.B., B.Ch. Cantab., MILFORD, R. D., M.R.C.S., L.R.C.P. Lond., LLOYD-WILLIAMS P., M.R.C.S., L.R.C.P. Lond., L.D.S., SHIRES, B., M.B., Ch.B. Edin., COOPER, G. K., M.B., B.Ch. Cantab., RICKMAN, J., M.B., B.Ch. Cantab., BROCKMAN, E. P., M.B., M.Ch. Cantab., F.R.C.S. Eng., METCALFE, R. H., M.R.C.S., L.R.C.P. Lond., TIPPETT, G. O., M.R.C.S., L.R.C.P. Lond., ELLIS, R. W. B., M.R.C.S., L.R.C.P. Lond., MYLECHREEST, D. H. P. Q., M.R.C.S., L.R.C.P. Lond., SHACKEL, E. M., M.R.C.S., L.R.C.P. Lond., WALTON, L. H. F., M.R.C.S., L.R.C.P. Lond., CHILDS, R., M.R.C.S., L.R.C.P. Lond., MAVOR, H. R. R., M.R.C.S., L.R.C.P. Lond., EVANS, I., M.R.C.S., L.R.C.P. Lond., FRYER, T. D. W., M.R.C.S., L.R.C.P. Lond., WILLIAMS, D. O., M.B. B.Ch. Oxon., DUDGEON, C. R., M.R.C.S., L.R.C.P. Lond., GABBE, S. W., M.R.C.S., L.R.C.P. Lond., Assistants.

Vacancies.

For further information refer to the advertisement columns.

Bath, Royal United Hospital.—Asst. H.S. £100.
Bath, Winsley Sanatorium.—Asst. Res. M.O. £250.
Bradford City.—Asst. Sch. M.O.'s. £600.
Bradford Union Institutions.—M.O. £450.
Bristol General Hospital.—Two H.P.'s., two H.S.'s, Res. Obstet. O. and Cas. H.S. All at rate of £80.
Bristol Royal Infirmary.—H.P.'s and H.S.'s. At rate of £80.
Cardiff, Prince of Wales's Hospital for Cripples and Limbless.—Res. H.S.
City of London Hospital for Dis. of the Heart and Lungs, Victoria Park, E.—H.P. At rate of £100.
Derbyshire Royal Infirmary, Derby.—Hon. Dental S.
Freemasons Hospital and Nursing Home, 237, Fulham-road, Chelsea, S.W.—Res. M.O. At rate of £250.
Harrogate Infirmary.—H.S. At rate of £150.
Holloway Sanatorium, Virginia Water, Surrey.—Med. Supt. £1600.
Johannesburg, S. African Institute for Medical Research.—Pathologists. £1200, £1000, and £600 respectively.
Kensington, Fulham, and Chelsea General Hospital, Richmond-road, Earl's Court, S.W.—Jun. Res. M.O. At rate of £75.
Leicester Royal Infirmary.—H.S. At rate of £125.
Liverpool, Royal Southern Hospital.—Hon. Asst. S.
Liverpool and Samaritan Hospital for Women.—H.S.
London Hospital, E.—Vacancy on Hon. Surg. Staff.
Manchester, Royal Children's Hospital, Gartside-street.—Asst. M.O. At rate of £150.
Manchester, Royal Children's Hospital, Pendlebury.—Res. Surg. O. At rate of £80.
Mount Vernon Hospital, Northwood, Middlesex.—S.
National Hospital for Diseases of the Heart, Westmoreland-street, W.—Res. M.O. At rate of £150.
National Hospital for the Paralysed and Epileptic, Queen-square, W.C.—Med. Reg. £200.
North Middlesex Hospital, Edmonton, N.—Res. Med. O. £200.
Norwich, Norfolk and Norwich Hospital.—H.S. £120.
Nottingham General Hospital.—H.P. At rate of £150.
Nottingham, Ransom Sanatorium.—Asst. Res. M.O. £375.
Oxford, Radcliffe Infirmary and County Hospital.—H.P. At rate of £120.
Paddington Board of Guardians, Harrow-road, W.—Res. Asst. M.O. £330.
Plymouth, Udal Torre Sanatorium, Yelverton.—Res. M.O. £450.
Preston Union.—Res. M.O. £600.
Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—H.S. at rate of £100.
Royal Chest Hospital, City-road, E.C.—S.
Royal Free Hospital and Lond. Sch. of Medicine for Women, Gray's Inn-road, W.C.—Sen. Asst. Pathologist. Full-time.
St. Bartholomew's Hospital.—Refraction Asst. One guinea per session.
St. Mark's Hospital for Cancer, Fistula, &c., City-road, E.C.—H.S. at rate of £200.
St. Mary's Hospital, W.—Second Asst. Pathologist. £250.
St. Thomas's Hospital.—Res. Asst. P.
Salford Royal Hospital.—Radiologist. £300.
Samaritan Free Hospital for Women, Marylebone-road, N.W.—H.S. At rate of £100.
Singapore Municipality, Straits Settlements.—Asst. Health O. £1008.
Southampton, Royal South Hants and Southampton Hospital.—Jun. H.S. At rate of £150.
Swansea Hospital.—H.S. £150.
West London Hospital, Hammersmith, W.—H.P. and two H.S.'s. Each at rate of £100.
Western Ophthalmic Hospital, Marylebone-road, N.W.—Sen. and Jun. H.S.'s. At rate of £150 and £100 respectively.
York County Hospital.—H.S. £150. Also H.S. for Eye, Ear, and Throat Dept. £150.

The Chief Inspector of Factories, Home Office, London, S.W., announces vacancies for Certifying Factory Surgeons at Strathaven (Lanarkshire), Craven Arms (Salop), Sherburn-in-Elmet (Yorks, W. Riding), and at Wartle (Aberdeenshire).

Births, Marriages, and Deaths.

BIRTHS.

JORY.—On Feb. 15th, at a nursing home, to Yvonne, wife of Philip J. Jory, D.S.O., M.B., F.R.C.S., of a son.

MOORE.—On Feb. 9th, at Ickleton, Great Chesterford, Essex, the wife of Dr. J. York Moore, of a daughter.

PATERSON.—On Feb. 5th, at Queen Anne-street, W., Dorothy, the wife of Dr. Donald Paterson, of a son.

SCHULZ.—Talitha Schulz, daughter of Muriel Wrinch and H. H. Schulz, M.A., M.R.C.S., L.R.C.P., born on Dec. 18th, 1925, at The Athelstan House Maternity Home, Feltham, Middlesex.

MARRIAGES.

COLTART—HAWKE.—On Feb. 11th, at St. Mary's Church, Shortlands, Kent, John Gilchrist Coltart, M.B., Ch.B., of Park Langley, Beckenham, Kent, to Dora Phyllis, daughter of Dr. and Mrs. Hawke, Shortlands, Kent.

GRAY CLEGG—NIGHTINGALE.—On Feb. 10th, at the Wesleyan Methodist Church, Manchester-square, W., by the Rev. A. Gordon James, John Gray Clegg, M.D., B.S., F.R.C.S., &c., of Manchester, to Edith Anna Nightingale, of London.

MILLER—BATCHELLER.—On Feb. 10th, at St. Peter's, Maidstone, Thomas Mackinlay Miller, *M.C.*, of Grosvenor-road, Tunbridge Wells, late R.A.M.C., to Freda, youngest daughter of Robert Batcheller, of Engadine, Maidstone.

DEATHS.

AIR.—On Feb. 12th, at Tennison-road, South Norwood, Alexander Cummings Air, L.R.C.P. Lond., M.R.C.S. Eng., in his 81st year.

BATT.—On Feb. 14th, at The Hill, Witney, Oxon, Charles Dorrington Batt, M.B., J.P., aged 80 years.

HAYNE.—On Feb. 14th, 1926, Louis Brightwell Hayne, M.B.E., M.D. Cantab., aged 56 years, of Sheen House, Harrogate, second son of the late Henry Hayne, of The Ferns, Tunbridge Wells, and Mark Cross, Sussex, and of Mrs. Hayne. Was interred at the Borough Cemetery, Tunbridge Wells, on Wednesday, Feb. 17th.

MISKIN.—On Feb. 9th, at Harrington-road, Brighton, George Albert Miskin, M.D., aged 84.

NORTON.—On Feb. 8th, at St. Leonards-on-Sea, Algernon Charles Wodehouse Norton, M.D., Crimean veteran, son of the late Dr. Robert Norton, in his 93rd year.

OLIVER.—On Feb. 10th, at his sister's house, Beare Green, after a very short illness, Matthew Baillie Oliver, O.B.E., F.R.C.S., of Harley-street.

RAYNER.—On Feb. 8th, at The Ledge, Hythe, Kent, Henry Rayner, M.D., of Upper Terrace House, Hampstead, aged 84.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

MIDDLESEX HOSPITAL ANNEXE.—The new Middlesex Hospital Annexe in Cleveland-street, London, W., will be opened on Tuesday, Feb. 23rd, at 3.30 P.M., by the Minister of Health.

SYDNEY RINGER MEMORIAL LECTURE.—Regulation of the Coronary Circulation will be the subject of the Sydney Ringer lecture at University College Hospital Medical School, which is to be delivered by Dr. G. V. Anrep on Thursday, March 4th, at 5 P.M. The lecture will be open to medical practitioners and students.

Notes, Comments, and Abstracts.

INDIAN SCIENCE CONGRESS.

THE thirteenth annual meeting of the Indian Science Congress, under the auspices of the Asiatic Society of Bengal, took place in Bombay during the first week in January. Sectional meetings were held in agriculture, medical and veterinary research, chemistry, botany, zoology, mathematics and physics, geology, anthropology and psychology.

In a country like India, with such extremes of climate, such serious epidemics of disease, such varying conditions of living, such different standards of health in the several races which inhabit the country, medical research is of peculiar importance and interest. Research activities have until recently been confined to the few, but the crowded benches at the meetings of the Indian Science Congress at Bombay justify the hope that the practitioner and even the general public are beginning to take a stronger interest in the solution of many problems of vital importance to India. In a presidential address, Mr. Albert Howard, Director of the Institute of Plant Industry, Indore, dealt with the connexion between agriculture and science. Speaking of irrigation, he mentioned that there are many differences between irrigated crops and those grown under natural conditions, and that plants and animals on irrigated areas do not have the same well-being as those living under natural conditions, while there is a tendency among the people for intense malaria to develop. He raised the question: Is this malaria due to increased opportunity for mosquito breeding, or is it that the nutritive and vitamin value of the crops grown under canal irrigation is less than under natural conditions, and is the lowered resistance of the people the cause of the increased malaria? He believed that McCarrison was on the eve of throwing light on these questions when his investigations were cut short by Government retrenchment. The presidential address to the medical section was given by Dr. Raw, one of the private practitioners of Bombay. Great stress was laid on the importance of the general practitioner interesting himself in research, and endeavouring to maintain the high standard of work which has hitherto been held by the men of the I.M.S. He lamented the loss sustained by Bombay a few years ago, when the Bombay Tropical School was abandoned after all arrangements for its opening had been concluded and much expenditure incurred. Had the school been now in existence, he said, the whole atmosphere of Bombay as regards research would be altered.

Many interesting papers were read. One by Major Russell showed the working out of a population growth curve for the Madras Presidency on the formula given by Prof. Raymond Pearl and Prof. Read of the Johns Hopkins University. This, he said, has been tested by the growth of populations in many European countries where censuses are regularly taken and has been proved correct, and when applied to Madras it indicated that the population is within a million or two of its maximum expansion and that some violent upheaval or epidemic may be anticipated to keep it within possible limits. Another paper by the same author described a cholera periodicity in India occurring every six years. Some papers were read on plague vaccine and prophylactic. It was mentioned more than once that the Haffkine plague prophylactic has held first place for 20 years and has never been improved on by later workers. Bombay is beginning to realise what India owes to Haffkine, and has marked its grateful if over-tardy recognition by altering the name of the Bombay Bacteriological Laboratory to the "Haffkine Institute."

A considerable part of one morning was given up to an account of the research work on sprue now being carried on at the Haffkine Institute. The analysis of the gastric and intestinal contents, urine and blood was discussed. It seemed to be generally considered that the disease was probably a general inflammatory condition of the digestive mucous membrane not caused by yeasts, possibly of infective origin, and with a definite lowering of the ionic calcium of the blood. A paper on anæmia led to a discussion on the pernicious anæmia of pregnancy, which is very prevalent in Bombay. An interesting paper dealt with the development of malaria in connexion with the land reclamation scheme in Bombay. A large area of sea is being reclaimed by means of dredging operations, clay from the harbour being poured through pipes on to the chosen surface of sea. As the clay settles, an uneven surface is formed with many pools of sea water in which mosquitoes breed freely. The coolies camp on the outskirts and are no doubt heavily infected. In spite of this the antimalarial measures have been so thorough that the incidence of malaria in Colaba (the adjacent part of Bombay) has been diminished, although malaria has been severe in other parts of Bombay.

During the congress many pleasant excursions to places of interest in Bombay were arranged and much private hospitality was shown to members of the congress.

"MARIAHUANA."

UNDER this name, which is peculiar to Mexico and is probably of Indian origin, it is not easy to recognise our old friend *Cannabis indica*. But it is the official name for it in Mexico, and as such it figures very largely among the contraband drugs which are seized yearly by the Mexican customs authorities. The growing, importation, and sale of *Cannabis sativa*, as it should be called, are strictly forbidden in Mexico, where it is classed amongst the "drogas heroicas" with morphine, heroin, and cocaine. It grows wild in parts of Mexico, and the leaves are rolled into cigarettes. The report of the Mexican Ministry of Health shows that large quantities are confiscated in the year, but this is probably in the bulky form of dried leaves not prepared in any way. The smuggling seems to be chiefly on the United States border.

MANCHESTER ROYAL INFIRMARY.

AT the annual meeting of the trustees of the Manchester Royal Infirmary held on Feb. 12th, the board expressed regret at the resignation of Sir William Cobbett, who had been chairman for 21 years. It was greatly owing to his energy that the money was got together for the building of the infirmary. A life governor stated that at Aberdeen Royal Infirmary the ordinary income exceeded the expenditure, and that last year about £100,000 was collected from working men alone for the Glasgow infirmaries. In Manchester the comparatively meagre sum of £10,000 had been contributed. He appealed for an organiser to foster interest in the city's hospital and for the appointment to the board of a member to represent the workmen outside. Pointing out that there were committees of workmen in connexion with the Hospital Saturday and Sunday Funds, he said that in Scotland organisers went to the works to speak to the workmen. The workpeople of Manchester, he was sure, would be agreeable to a regular weekly deduction for the hospitals, and if the workers were persuaded to do better, then the employers would follow suit.

THE FOOD OF THE COUNTRY.

THE centenary of Brillat-Savarin, marked by the issue of a sumptuous translation of his great work,[1] has also been acclaimed at memorial feasts in Paris and London. When Brillat-Savarin, having caught a cold at the age of 80, died in Paris this month 100 years ago he believed that he had put an end, once and for all, to the foolish confusion which existed in men's minds between gluttony and gourmandism; between eating grossly, like a beast, and eating choicely, like a man. Within his own country, perhaps, his faith was justified, and the wise and witty gospel of his "Physiologie du Goût" was not preached in vain. France is still the land where gourmands are happiest. Yet even in France societies have been formed (ominous phrase!) in recent years for the encouragement of good cooking in general, and in particular for the preservation of local or provincial recipes of outstanding excellence; and too often it has proved necessary not so much to preserve what exists, as to revive what had been forgotten. The "wine of the country" is often sentimentally extolled by travellers, and is sometimes extremely nasty; the "food of the country" apt to be so excellent gets no such notice and its disappearance goes unnoticed. In England the untranslatable designations in restaurants of all but the simplest dishes, and the gradual disappearance of "tariff" and "bill of fare" from the language, in favour of "carte" and "menu," show that we are prepared in this country to support the very thing which the French gourmets regret, and in England many of our national dishes have disappeared. We are gastronomically denationalised save in matters of daily routine; we imitate our continental neighbours, and our imitations are not convincing.

[1] The Physiology of Taste. Peter Davies, 1, Bedford-street, London, W.C. £2 2s.

A VARIETY ARTISTS' BED.—Last week, at the Royal Northern Hospital, a bed was dedicated to the Variety Artists' Federation in recognition of the services rendered by it to the hospital. Sir Harry Lauder unveiled a tablet which has been placed over the bed.

A HOSPITAL BAZAAR.—The Duke of York attended the "Barbary Coast Bazaar" held recently at Sunderland in aid of the fund that is being raised for the new Monkwearmouth and Southwick Hospital. It is now announced that the bazaar, which was visited by more than 60,000 people, has produced a profit of £9514. This hospital and Sunderland Royal Infirmary have raised between them £110,000 during the last 12 months.